

Executive Summary

ES.1 Introduction

The Preliminary Administrative Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) has been prepared by the California Department of Water Resources (DWR) and the U.S. Department of the Interior (DOI), Bureau of Reclamation, Mid-Pacific Region (Reclamation) to address the potential effects of the proposed North-of-the-Delta Offstream Storage (NODOS) Project. DWR is serving as the State lead agency for compliance with the California Environmental Quality Act (CEQA), and Reclamation is serving as the federal lead agency for compliance with the National Environmental Policy Act (NEPA). The EIR/EIS contains a description of the proposed Project, potential alternatives to the proposed Project, describes the environmental setting, identifies the potential direct and cumulative impacts that could result from implementation of each of the proposed Project's alternatives, and proposes mitigation measures for impacts found to be significant.

The proposed Project would be located in Antelope Valley, approximately 10 miles west of the town of Maxwell, in both Glenn and Colusa counties. Other proposed Project facilities would be located in Tehama, Glenn, and Colusa counties (Figure 1-2 in Chapter 1 Introduction). DWR and Reclamation developed three variations of the preferred alternative (described as "action alternatives" in the resource chapters) to meet the purpose, need, and objectives of the proposed Project.

ES.1.1 Purpose and Need and Project Objectives

ES.1.1.1 Purpose Statement and Project Objectives

The purpose of the proposed Project is to build offstream surface storage located north of the Delta. The proposed Project's primary objectives are to:

- Improve water supply reliability for agricultural, urban, and environmental uses
- Increase survival of anadromous and endemic fish populations
- Improve environmental and drinking water quality in the Delta
- Provide flexible hydropower generation to support integration of renewable energy sources

The secondary objectives for the proposed Project, based on opportunities that were identified during formulation of alternatives that met the primary objectives, are to:

- Develop additional recreation opportunities
- Provide incremental flood damage reduction opportunities

ES.1.1.2 Needs and Project Objectives

The NODOS Project identified six needs and opportunities that are the basis of the primary and secondary objectives. The NODOS Project also identified one additional need: operational flexibility. Following is a description of the needs and opportunities identified by the NODOS Project.

Water Supply Reliability for Agricultural, Urban, and Environmental Uses

Water supply reliability requires the delivery of specified amounts of water at predictable locations and times. A review of DWR's SWP Delivery Reliability Reports since 2002 (2002, 2005, 2007, 2009, and 2011) indicates declining SWP reliability. Average SWP delivery has been reduced by almost

500,000 acre-feet during the period from 2002-2011. The CVP has experienced similar reductions in delivery. During prolonged droughts or multiple dry years, water supplies are reduced, and the effects of climate change are predicted to further diminish water supply. The loss of water in storage reduces the ability of the SWP and CVP to deliver the amount of water requested by their contractors, reducing the reliability of these systems to provide needed water. The additional storage provided by the proposed Project could be used to augment some of the storage capacity at existing facilities. Greater improvements to water supply reliability could be achieved if operation of the proposed Project is integrated with other storage facilities, especially during drier periods.

Survival of Anadromous and Endemic Fish Populations

Populations of anadromous and endemic fish species within the Sacramento Valley river system and Bay-Delta are declining. The primary causes of the anadromous fish species decline have been identified as barriers to historic habitat, habitat degradation, predation from introduced species, reduced instream flows, and increased water temperatures (NMFS, 2009). Several potential causes of fish species declines in the Bay-Delta have been identified, including a combination of reduced habitat suitability (such as changing salinity), reduced food sources, entrainment, invasive species, predation, and toxins (Baxter et al., 2010). Onstream dams block many of the native anadromous species from their historic spawning areas. This impact of dams is partially mitigated with cold water releases that keep the water downstream of the dams cold enough to provide limited spawning and rearing habitat. The reliability of cold water in these streams can be increased and temperatures for anadromous fish can be improved by both maintaining additional water in storage year to year and releasing additional water at specific times to improve temperatures. Additional water in storage from the proposed Project would provide a source of additional water within the SWP and CVP systems that could be used to facilitate several ecosystem restoration and enhancement actions to improve conditions for fish populations in the Delta and Sacramento River watershed.

Water Quality

The CVP and SWP systems currently meet water quality requirements by releasing additional water from upstream reservoirs. Additional water in storage from new proposed Project storage could improve Delta water quality by providing high-quality supplemental flows dedicated to Delta outflow during periods when Delta water quality is impaired. Water quality improvements would benefit drinking water quality for urban customers, irrigation users, and the Bay-Delta ecosystem.

Flexible Hydropower Generation

California's renewable energy goal is to increase the portion of energy produced by renewable sources in the State to 33 percent by 2020. Although energy from the proposed Project may not, by law, count as having been produced by a renewable electrical generation facility, operation of the Project may nonetheless provide general if unrecognized benefits in the reduction of greenhouse gas emissions by matching renewable sources with reliable and flexible generation sources to cover short-term gaps in generation, such as when winds diminish in wind generation-intensive areas. The proposed Project would be built with pumping/generating plants capable of producing hydropower. Electricity would be generated when water is released from the proposed Sites Reservoir into the proposed Holthouse Reservoir and from the proposed Holthouse Reservoir to the proposed Terminal Regulating Reservoir and into the Sacramento River. The proposed Project is also capable of daily pump-back operations. In pump-back operations mode, water would be released from the proposed Sites Reservoir into the proposed Holthouse

Reservoir during on-peak hours to generate electricity and water would be pumped back into the proposed Sites Reservoir during the off-peak hours to complete the pump-back operations cycle. Additional storage provided by the proposed Project could facilitate flexible hydropower generation, which could be quickly ramped up or down to complement wind or solar generation to meet power demands and support reliable operation of the power grid.

Additional Recreation Opportunities

The planning of any reservoir north of the Delta provides an opportunity to develop new recreational facilities and provide additional opportunities for recreation activities such as fishing, swimming, camping, boating, and hiking. The proposed Project would provide up to five new recreation areas.

Incremental Flood Damage Reduction

Offstream storage can provide incremental flood damage reduction improvements to areas located immediately downstream of the reservoir that are prone to flooding. The proposed Project would not dam a major stream, but would dam two small ephemeral creeks that are known to cause local flood damage. The proposed Project would therefore provide local flood damage reduction.

Operational Flexibility

Operational flexibility was identified as a need by both the CALFED Program and the NODOS Project. Operational flexibility can be defined as the ability of water systems to adapt and respond to changing or uncertain conditions. Water in storage is a metric of operational flexibility; increased water in storage provides increased operational flexibility for a system by allowing system operators and water managers to do more. Water managers employ the flexibility of the systems they manage to accomplish a variety of water management objectives. As noted above in the discussion of Project objectives, additional water in storage can be used to deliver more water to users, improve ecosystem conditions within the system, or improve water quality. In this sense, operational flexibility has a direct relationship with water management generally, and with meeting water management objectives specifically.

California's water management challenges include growing drought impacts, declining ecosystems, diminishing water quality, increasing climate change impacts to the State's hydrology, increasing flood risk, and aging infrastructure (DWR, 2009). The California Water Plan Update (DWR, 2009) notes that, "the entire system—water and flood management, watersheds, and ecosystems – has lost its resilience and is changing in undesirable ways." This loss of resiliency is the result of decreased operational flexibility.

Additional water in new storage, such as additional water in a new offstream storage reservoir located north of the Delta, would contribute to increased system flexibility. From a system perspective, operational flexibility can be assessed by evaluating the additional water in storage that can be used to meet existing and future water demands. To achieve this kind of flexibility, additional storage would be most effective when operationally integrated with existing SWP and CVP facilities. Supplemental north of Delta storage would provide the ability to increase the water in storage in existing system reservoirs such as Shasta Lake, Lake Oroville, Trinity Lake, and Folsom Lake. The additional water in new offstream storage and increasing water levels in existing reservoirs can meet a larger set of system objectives. For example, water users and ecosystem needs immediately downstream of existing reservoirs need additional water in those reservoirs to meet those needs; additional water in new offstream storage alone would not improve the system's ability to meet needs below existing reservoirs without integration.

The total improvement in flexibility is both additional water in existing reservoirs and additional water in new offstream storage.

ES.1.2 NODOS Study Authorizations

DWR received authorization to study NODOS Project beginning in 1996. Reclamation received feasibility study authority for the NODOS Project in 2003. The specific federal and State authorities for study of NODOS Project are summarized in Table ES-1.

Table ES-1
Summary of Federal and State Authorities for the NODOS Project

Federal Authorities	State of California Authorities
<ul style="list-style-type: none">• Public Law 108-7. Consolidated Appropriations Resolution, 2003• Public Law 108-137. Energy and Water Development Appropriations Act, 2003• Public Law 108-361. CALFED Bay-Delta Authorization Act, 2004	<ul style="list-style-type: none">• Proposition 204. The Safe, Clean, Reliable Water Supply Act of 1996• Budget Act, 1997-1998• Proposition 50. Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002• Proposition 84. 2006 Safe Drinking Water Bond Act

ES.1.3 Purpose and Intended Uses of this EIR/EIS

The purpose of this EIR/EIS is to present the process and overall findings of the NODOS environmental evaluations. This EIR/EIS, and the associated Draft Feasibility Report, is intended to be used by DWR and Reclamation when considering approval of the proposed Project. It will also provide information for DWR, Reclamation, National Marine Fisheries Service (NOAA Fisheries), U.S. Fish and Wildlife Service (USFWS), and the California Department of Fish and Wildlife (CDFW) to support compliance with the federal Endangered Species Act (ESA), the California Endangered Species Act (CESA), and the Natural Community Conservation Planning Act (NCCPA) and will provide information for the U.S. Army Corps of Engineers (USACE) and the Regional Water Quality Control Board (RWQCB) in Clean Water Act (CWA) Section 408, 404, and 401 applications, as well as information necessary for USACE to issue a Rivers and Harbors Act Section 10 permit.

ES.1.4 Federal, State, Regional, and Local Requirements

In addition to DWR and Reclamation, several federal, State, regional, and local agencies, as well as decision-making bodies, have jurisdiction over resources that could be affected by the proposed Project, or have other permitting or regulatory authority over certain aspects of the proposed Project. These agencies and decision makers will review and consider the information contained in the final EIR/EIS, and will consider it in their decision-making process. Refer to Table 1-1 in Chapter 1 Introduction for key consultation requirements for the NODOS Project.

All federal, State, regional, and local legislation and policies that were considered during impact evaluations for each of the resource chapters, or that will be used for decision making for the proposed Project, are detailed in Chapter 4 Environmental Compliance and Permit Summary of this EIR/EIS.

ES.1.5 Notice of Preparation and Notice of Intent

DWR filed a Notice of Preparation (NOP) with the State Clearinghouse on November 5, 2001, and Reclamation published a Notice of Intent (NOI) in the *Federal Register* on November 9, 2001 to announce the intent to prepare a joint EIR/EIS for the proposed Project. The NOP/NOI notified the public

of the Project proposal, announced the dates and locations of public meetings, and solicited public comments to help guide development of the EIR/EIS, pursuant to CEQA and NEPA, respectively. Copies of the NOP and NOI are included in Appendix 36A.

ES.1.6 Proposed Project

The proposed Project would consist of a new offstream surface storage reservoir with two main dams, up to nine saddle dams, and up to five recreation areas. The reservoir would have an associated inlet/outlet structure and would be connected to the Sacramento River by two existing canals and a new pipeline. Water conveyance between the reservoir and the canals and pipeline would be facilitated by two new regulating reservoirs and their associated pumping/generating plants. A new transmission line would connect the pumping/generating plants and their associated electrical switchyards to an existing transmission line in the proposed Project area. New roads and a bridge would be constructed to provide access to the proposed Project facilities and over the proposed reservoir, and some existing roads would be relocated or improved. The proposed Project would require modifications to an existing canal and pumping plant. A more complete description of the proposed Project can be found in Chapter 3 Description of Proposed Project/Proposed Action and Alternatives.

ES.1.6.1 Study Areas

The proposed Project has the potential to influence SWP and CVP system operations and water deliveries over a large geographic area. To effectively evaluate the proposed Project's three action alternatives' effects on environmental resources in different geographic regions, DWR and Reclamation identified three study areas to be evaluated in this EIR/EIS: the Extended, Secondary, and Primary study areas. These three study areas are summarized below.

Extended Study Area

The Extended Study Area includes the entire service areas of the SWP and CVP and is the largest and most diverse of the three study areas, in terms of size, geography, land use, and habitat conditions. As such, it has been described and evaluated at the lowest level of detail. These two service areas are located within all or portions of the following 39 counties: Alameda, Butte, Calaveras, Colusa, Contra Costa, El Dorado, Fresno, Glenn, Imperial, Kern, Kings, Los Angeles, Madera, Merced, Monterey, Napa, Nevada, Orange, Placer, Plumas, Riverside, Sacramento, San Benito, San Bernardino, San Diego, San Joaquin, San Luis Obispo, Santa Barbara, Santa Clara, Santa Cruz, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Ventura, and Yolo. The proposed Project's purpose of improved water supply reliability has the potential for long-term direct and indirect effects within those two service areas. The SWP and CVP service areas included in the Extended Study Area are shown on Figure 1-6 in Chapter 1 Introduction. The Extended Study Area would also include wildlife refuges that could receive Level 4 water supply from the proposed Project. Those wildlife refuges, which are located within seven counties in the Extended Study Area, are shown on Figure 1-7 in Chapter 1 Introduction.

Secondary Study Area

The Secondary Study Area is smaller than the Extended Study Area and has been described and evaluated in more detail than for the Extended Study Area. The Secondary Study Area is defined as the area of potential operational effects, including SWP and CVP facilities that could experience reservoir water surface elevation fluctuations and stream flow changes downstream from their facilities. Those facilities are located within the following 22 counties: Alameda, Butte, Colusa, Contra Costa, Del Norte, El

Dorado, Glenn, Humboldt, Marin, Placer, Sacramento, San Francisco, San Mateo, Santa Clara, Shasta, Solano, Sonoma, Sutter, Tehama, Trinity, Yolo, and Yuba. Operational changes could occur as a result of the coordinated and integrated operation of the proposed Project's facilities with those State and federal projects located on the American River, Trinity River, Sacramento River, Clear Creek, Spring Creek, Feather River, and the Delta. The Secondary Study Area is shown on Figure 1-8 in Chapter 1 Introduction.

Primary Study Area

The Primary Study Area is the focus of the resource evaluations in this EIR/EIS. The Primary Study Area includes the areas within Glenn and Colusa counties where short-term and long-term direct effects from constructing, operating, and/or maintaining proposed Project facilities may occur. This study area includes the footprints of the proposed Sites Reservoir inundation area and other proposed facilities (e.g., dams, intakes/discharge facilities, pipelines, transmission line, pumping/generating plants, recreation areas, road relocation areas, borrow areas and associated facilities). It also includes the construction disturbance areas, i.e., the footprint of each proposed facility plus the area around each facility that would be disturbed over the short-term by Project-related construction activities, vehicles, and equipment. The Primary Study Area also includes the land parcels that surround those Project facilities; these parcels would be purchased but not developed for the proposed Project and are referred to as the "Project Buffer."

There are differences in the facilities associated with the proposed Project alternatives; therefore, the Primary Study Areas for the three alternatives also differ. The Primary Study Areas associated with Alternatives A, B, and C are shown on Figure 1-9A, Figure 1-9B, and Figure 1-9C, respectively, in Chapter 1 Introduction.

ES.1.7 Areas of Controversy/Issues to be Resolved

The following areas of controversy and issues to be resolved have been identified to date through stakeholder meetings or during the preparation of this EIR/EIS.

- Golden eagles have been identified as foraging within the proposed Sites Reservoir Inundation Area and nesting within the proposed recreation areas. USFWS has expressed concern about the potential loss of nesting and foraging habitat for golden eagles, which are protected by the Bald and Golden Eagle Protection Act.
- Project development would require the demolition of existing structures, acquisition of private property, and relocation of displaced parties. These actions concern property owners within the Primary Study Area.

ES.2 Approach to Alternatives Analysis

ES.2.1 Overview of the Alternatives Analysis

The NODOS Project alternatives analysis was completed in phases. The study of the NODOS Project was originally derived from the CALFED Program's identification of a range of activities that, if implemented, could concurrently improve the quality and reliability of California's water supplies as well as ecosystem conditions and levee integrity in the Sacramento-San Joaquin Delta. Among many recommended activities, the CALFED Program identified the need for an additional 3.0-MAF of storage

north of the Delta to meet environmental and water supply needs. The CALFED Program also expressed a preference for offstream over onstream storage to avoid redirected impacts to fisheries and other aquatic species. The CALFED Program initially identified 52 potential surface storage locations¹ but retained only 12 reservoir locations statewide for further study (CALFED, 2000). For a summary of the CALFED Program Inventory of Potential Surface Water Storage Sites, refer to Appendix 2A. Red Bank, Newville, Colusa, and Sites are four (of the 12) reservoir locations that are offstream and located north of the Delta. Consistent with these recommendations, DWR initiated studies of the four north-of-the-Delta offstream storage alternatives in 1997.

The consideration and evaluation of the four alternatives is described below. DWR and Reclamation eliminated the Red Bank and Colusa alternatives from further consideration based upon a comparison of environmental effects and feasibility considerations, which are documented in the 2000 NODOS Investigation Progress Report and in the 2006 NODOS Initial Alternatives Information Report. This allowed DWR and Reclamation to compare and evaluate the No Project/No Action Alternative, the Newville Reservoir Alternative, and the Sites Reservoir Alternative in greater detail, consistent with NEPA and CEQA requirements. Based on the detailed evaluation of these alternatives, Sites Reservoir was selected as the preferred proposed Project alternative.

DWR and Reclamation have also completed a more detailed evaluation of effects, consistent with CEQA and NEPA requirements, of three configurations of Sites Reservoir, hereafter called Alternative A, Alternative B, and Alternative C. The results and conclusions of these evaluations are found in Chapters 6 through 35. For purposes of CEQA, these alternatives should be considered as three variations of the Sites Reservoir Alternative (i.e. the preferred Project alternative). For NEPA purposes, the evaluation of Alternative A, Alternative B, Alternative C, and the No Project/No Action Alternative were evaluated in detail in accordance with the Council on Environmental Quality regulation 1502.14b.

ES.2.2 Alternatives Considered But Rejected from Further Consideration

Following an evaluation of the NODOS Investigation Progress Report (July 2000), the Red Bank and Colusa alternatives were eliminated from further consideration. The reasons for eliminating these two reservoir locations are described in further detail in Chapter 2 Alternatives Analysis. The Red Bank Alternative was eliminated because it was determined early in the evaluation process that a reservoir at Red Bank would have more numerous and more significant impacts to the physical environment than other alternatives. Relative to other alternatives, Red Bank would have a larger on-stream component, would impact lands with greater habitat diversity, would substantially reduce sediment contributions from Cottonwood Creek to the Sacramento River, and would result in significant impacts to spring-run Chinook salmon and steelhead on South Fork Cottonwood Creek. Furthermore, the level of overall benefits (water supply, water quality, ecosystem enhancement, hydropower) realized by the Red Bank Alternative would be less than that of other locations considered due to the smaller storage capacity of the reservoir. The Colusa Reservoir Alternative was not recommended for further consideration because its larger facilities would have an overall greater impact on environmental and cultural resources than the other smaller reservoir alternatives, its high total capital cost for storage capacity made it the least cost effective alternative, and the estimated average annual cost per yield would be comparatively excessive.

¹The results of this inventory are presented in the March 7, 1997 draft report, *CALFED Bay-Delta Program Storage and Conveyance Component Inventories*. The inventory includes 51 potential surface water storage sites. Subsequently, the August 2000 *CALFED Initial Surface Water Storage Screening Report* added the San Luis Enlargement to the list of potential sites.

ES.2.3 Alternatives Selected for Analysis

DWR and Reclamation selected the Sites Reservoir and Newville Reservoir alternatives, along with the No Project/No Action alternative, for further analysis in the NODOS Project EIR/EIS. DWR's NOP and Reclamation's NOI also identified other potential alternatives, including conjunctive use or Shasta Reservoir enlargement, either as stand-alone projects or in conjunction with other NODOS Project alternatives to meet NODOS Project objectives. Subsequent evaluations by other programs determined that the potential for conjunctive use is limited because Sacramento Valley groundwater basins recharge annually, leaving no space for operable storage. Conjunctive use was, therefore, not retained as a feasible alternative.

Reclamation is investigating Shasta Lake enlargement as part of its Shasta Lake Water Resources Investigation. However, State agency involvement in this project is effectively barred by Public Resources Code section 5093.542. Shasta Lake enlargement was, therefore, not retained as a feasible alternative to meet NODOS Project objectives. The alternatives retained for further analysis are briefly described below and described in further detail in Chapter 2 Alternatives Analysis.

ES.2.3.1 Existing Conditions and the No Project/No Action Alternative

The CEQA Baseline for assessing significance of impacts of the proposed Project is normally the environmental setting, or Existing Conditions, at the time a NOP is issued. The NOP for the proposed Project was published on November 5, 2001. However, because the preparation of this environmental document has occurred over many years, it was deemed necessary to update the baseline condition date to June 2009 to include programs, projects, or policies that have been implemented during the document's preparation. Changes in the regulatory environment since November 2001 have fundamentally changed water management in California and necessitate updating the baseline conditions for environmental analyses in this EIR/EIS. These changes include the issuance of new biological opinions (BO) by the U. S. Fish and Wildlife Service (USFWS) in December 2008 and the National Marine Fisheries Service (NMFS) in June 2009 on the operations of the State Water Project and Central Valley Project. Consequently, June 2009 (following the release of NMFS' BO) was selected as the proposed Project's Existing Conditions date.

CEQA requires an analysis of an alternative in which the proposed Project is not implemented, referred to as the No Project Alternative. No Project conditions include reasonably foreseeable changes in Existing Conditions and changes that would be reasonably expected to occur in the foreseeable future if the project were not implemented, based on current plans and consistent with available infrastructure and community services. NEPA also requires an analysis of an alternative in which the proposed Project is not implemented, referred to as the No Action Alternative. The No Action Alternative represents a projection of current conditions to reasonably foreseeable future conditions that could occur if the proposed Project or alternatives are not implemented.

The No Action Alternative assumptions are consistent with the requirements and limitations prescribed by CEQA; therefore, in this EIR/EIS, the No Action Alternative also represents the No Project Alternative. The No Project/No Action Alternative assumptions include the assumptions related to the State Water Project (SWP) and Central Valley Project (CVP), ongoing programs and policies by governmental and nonprofit entities, and assumptions related to annual actions that vary every year. The No Project/No Action Alternative includes projects and programs with clearly defined management and/or operational

plans, including facilities being constructed as of June 2009². The No Project/No Action Alternative also includes projects and programs that received approvals and permits in 2009 to remain consistent with existing management direction. Those actions are consistent with the continuation of existing management direction or level of management for plans, policies, and operations by the lead agencies and other agencies. Refer to Chapter 2 Alternatives Analysis for the key assumptions associated with the No Project/No Action Alternative, as well as summaries of the following:

- SWP and CVP operations included in the No Project/No Action Alternative (Table 2-11 in Chapter 2 Alternatives Analysis)
- Projects and programs included in the No Project/No Action Alternative (Table 2-12 in Chapter 2 Alternatives Analysis)
- Ongoing programs included in the No Project/No Action Alternative (Table 2-13 in Chapter 2 Alternatives Analysis)

ES.2.3.2 Sites Reservoir Alternative

The Sites Reservoir Alternative, which would be located in Antelope Valley, approximately 10 miles west of the town of Maxwell in Glenn and Colusa counties, would be formed by constructing two major dams on Stone Corral Creek and Funks Creek. Initial evaluation of the Sites Reservoir Alternative focused on a 1.81-MAF reservoir that would also require the construction of nine saddle dams along the southern edge of the Hunters Creek watershed. Diversions from the Colusa Basin Drain (CBD), the Sacramento River, and local tributaries could provide potential sources of water supply for Sites Reservoir. Multiple conveyance options would be possible, with 13 optional conveyance systems (using existing and new conveyance infrastructure) from the Sacramento River, two from CBD, and two from Stony Creek. The description for the Sites Reservoir Alternative was further developed to include details for the appurtenant facilities shown in Figures 2-2 and 2-3 in Chapter 2 Alternatives Analysis.

Non-irrigation season flows in the CBD, the Sacramento River, and local tributaries remained potential sources of water supply for the offstream Sites Reservoir Alternative. Potential conveyance systems from these sources to the reservoir included existing and/or enlarged Tehama-Colusa (T-C) and Glenn-Colusa Irrigation District (GCID) canals, or a new conveyance facility from the Sacramento River near Moulton Weir and/or from the CBD to the existing Funks Reservoir on the T-C Canal. Conveyance from Stony Creek was also considered. All conveyance alternatives required enlargement of the existing Funks Reservoir to provide adequate storage capacity for pumping of water into the reservoir and hydropower generation. Major project facilities would be situated near the Funks Creek damsite, including outlet works, power plant, intake structure, and maintenance facilities. Additionally, up to five potential recreation facility locations were identified to meet the secondary objective of developing additional recreation opportunities in the study area.

ES.2.3.3 Newville Reservoir Alternative

The Newville Reservoir Alternative would be located upstream from Black Butte Reservoir, approximately 18 miles west of the City of Orland and 23 miles west-southwest of the City of Corning in Glenn and Tehama counties. Alternative reservoir sizes of 1.9-MAF and 3.0-MAF were considered. The 1.9-MAF reservoir would be formed by a dam on North Fork Stony Creek and a saddle dam at Burrows

² The lead agencies have established June 2009 as the Existing Conditions date; it is characterized in Chapters 6 through 31 as the Environmental Setting/Affected Environment discussion.

Gap. The 3.0-MAF reservoir would require up to five additional saddle dams and a dike. A small diversion dam and diversion from Thomes Creek would transfer water to the reservoir. Other source options include Stony Creek and the Sacramento River. Multiple conveyance options would be possible using existing infrastructure (e.g., canals), new infrastructure (e.g., canals, tunnels, and/or pipelines), or a combination of new and existing facilities. The description for the Newville Reservoir Alternative was refined further to include details for the appurtenant facilities shown in Figures 2-4, 2-5, 2-6, and 2-7 in Chapter 2 Alternatives Analysis. Continued evaluation of the Newville Reservoir Alternative focused on the 1.9-MAF reservoir size. The Sacramento River and Black Butte Reservoir were considered, in addition to Thomes Creek, as potential sources of water supply for the Newville Reservoir Alternative. Potential conveyance systems from these sources to the reservoir included the existing or enlarged T-C Canal with a new conveyance between the GCID and T-C canals, a new conveyance from the T-C Canal to the existing Black Butte Reservoir, and a new conveyance from Black Butte Reservoir to Newville Reservoir. A new conveyance from a proposed Thomes Creek diversion at a location north and west of the Newville Reservoir Alternative was also considered. Additionally, five potential recreation areas were identified to meet the secondary objective of developing additional recreation opportunities in the study area.

ES.2.4 Preferred Proposed Project Alternative

Comparisons of the biological and cultural resources for the Sites Reservoir and Newville Reservoir alternatives indicated a greater impact potential for the Newville Reservoir Alternative. Because of the consistently higher potential for biological and cultural resources impacts associated with the Newville Reservoir Alternative, and because the Newville Reservoir Alternative would not avoid or reduce any of the significant adverse effects associated with the Sites Reservoir Alternative, DWR and Reclamation selected the Sites Reservoir Alternative as the preferred proposed Project alternative to be retained for further study and more detailed evaluation.

ES.2.4.1 Sites Reservoir Storage Alternatives

DWR and Reclamation considered various storage sizes of Sites Reservoir, including 800 TAF, 1.27 MAF, 1.81 MAF, and 2.1 MAF. These four storage sizes were selected to reflect a range of storage values that would allow for a useful comparison of the costs and benefits estimates. These four storage sizes also represent points on the cost curve where the proposed Project's costs would change significantly due to the need for new Project features, such as dams or embankments.

DWR and Reclamation determined early in the investigation that a 2.1-MAF reservoir may present significant design challenges based on a review of the reservoir rim topography, site geology, and a cursory evaluation of the relationship between embankment volume and reservoir storage. Therefore, a maximum reservoir elevation of 540 feet, corresponding to a reservoir size of 2.1 MAF, was eliminated from further consideration. Reservoir sizes of 800 TAF, 1.27 MAF, and 1.81 MAF were, therefore, carried forward for further consideration.

ES.2.4.2 Sites Reservoir Conveyance Alternatives

Preliminary operations simulations indicated that 3,000 to 6,000 cfs of total inflow capacity would be needed to reliably fill Sites Reservoir. Because Sites Reservoir would be located offstream, water would need to be delivered both to and from the reservoir. As a result, conveyance facilities would be needed to transport water to Sites Reservoir, and to deliver water from Sites Reservoir to service areas, the Sacramento River, and other locations to meet various water resources needs and uses. DWR and

Reclamation determined that, to maximize operational flexibility, the conveyance facilities would need to be able to:

- Deliver water directly from Sites Reservoir to meet local needs in the vicinity of the existing GCID and T-C canals
- Deliver water in an integrated manner with existing CVP and SWP operations to facilitate meeting additional needs throughout the Bay-Delta system.
- Release water directly to the Sacramento River to meet additional needs throughout the Bay-Delta system and provide downstream benefits for Delta water quality and water supply reliability for CVP, SWP, and Level 4 wildlife refuge water supply. Additionally, the ability to release water directly to the Sacramento River would allow Sites Reservoir to respond to Delta emergencies.

Conveyance facilities alternatives that would divert water from the Sacramento River included the existing GCID and T-C canals, and a new pipeline, known as the Delevan Pipeline. Tributary source conveyance facilities alternatives included new pipelines from the CBD and Stony Creek. Conveyance facilities alternatives that were evaluated initially had a range of capacity sizes. Each of the options for the conveyance alternatives were evaluated based on cost, the importance of providing direct release to the Sacramento River, and preliminary assessments of potential environmental and cultural resources impacts.

The conveyance options retained were:

- T-C Canal at its existing capacity of 2,100 cfs
- GCID Canal at its existing capacity of 1,800 cfs
- A new Delevan Pipeline at capacities of 1,500 cfs, 2,000 cfs, and 3,000 cfs

The T-C and GCID canals at their existing capacities would be the most cost-effective conveyance alternatives and were retained. The three smallest Delevan Pipeline alternatives were also retained as they could be combined with the T-C and GCID canals to provide conveyance packages with up to 6,900 cfs total capacity for use in initial alternative development and allowed for an evaluation of benefits associated with the proposed Delevan Pipeline's ability to return water directly to the Sacramento River.

ES.2.4.3 Sites Reservoir Operational Alternatives

Eight initial Sites Reservoir operational alternatives, each with a range of conveyance packages and operational emphases, were considered and evaluated with the CalSim-II operations model in the NODOS Plan Formulation Report (DWR and Reclamation, 2008). The operational alternatives assumed a Sites Reservoir storage size of 1.8 MAF. All of the initial Project operational alternatives evaluated met the proposed Project's primary objectives, but to varying degrees. The proposed Project operational alternative that emphasized a balanced mix of benefits to water supply reliability, water quality, and ecosystem enhancement generated the greatest net annual economic benefit and minimized environmental impacts, and therefore was selected as the operational scenario for detailed evaluation in this environmental document. This operational alternative was the only one evaluated that resulted in economic benefits that exceeded costs (i.e. benefit-cost ratio greater than 1.0). The other operational alternatives that prioritized one benefit category (i.e. water supply reliability, water quality, or ecosystem enhancement) were eliminated from further consideration.

ES.2.4.4 Sites Reservoir Storage, Conveyance, and Operations Formulation

Based on the initial evaluation of storage, conveyance and operational alternatives, the following proposed Project features were retained for further evaluation:

- Sites Reservoir Storage: 800 TAF, 1.27 MAF, and 1.81 MAF
- Sites Reservoir Conveyance: Existing T-C Canal (2,100-cfs capacity), existing GCID Canal (1,800-cfs capacity), and new Delevan Pipeline (1,500-cfs, 2,000-cfs, and 3,000-cfs capacity)
- Operational scenario that emphasized a balanced mix of benefits to water supply reliability, water quality, and ecosystem enhancement

To further evaluate and optimize reservoir storage and conveyance options, preliminary costs were estimated and operations modeling was performed. Based on preliminary operations simulations, a 3,000-cfs Delevan Pipeline was eliminated from consideration. Modeling results of the above-listed conveyance options indicated that a 2,000-cfs conveyance was adequate to meet the proposed Project objectives. A preliminary estimate was made of the net annual benefit associated with each reservoir storage and conveyance options combination that was retained. Based on the analysis, three reservoir size and conveyance options were combined with new hydropower facilities to develop three configurations of Sites Reservoir, hereafter referred to as Alternative A, Alternative B, and Alternative C in this EIR/EIS. Following is a brief description of the No Project/No Action Alternative and Alternatives A, B, and C that are evaluated in this EIR/EIS:

- **No Project/No Action Alternative.** The No Project/No Action Alternative assumes that no actions would be taken to provide storage north of the Delta to improve water supply reliability, to enhance the survivability of anadromous fish or drinking water quality in the Delta, or to improve flexible hydropower generation.
- **Alternative A – 1.27-MAF Sites Reservoir with Delevan Pipeline.** Alternative A includes a 1.27-MAF Sites Reservoir with conveyance to and from the reservoir provided by the existing T-C and GCID canals and a new Delevan Pipeline (2,000-cfs diversion/1,500-cfs release). This alternative also includes new hydropower facilities.
- **Alternative B – 1.81-MAF Sites Reservoir with Release-only Delevan Pipeline.** Alternative B includes a 1.81-MAF Sites Reservoir with conveyance to and from the reservoir provided by the existing T-C and GCID canals, and a new release-only Delevan Pipeline (1,500-cfs release). This alternative also includes new hydropower facilities.
- **Alternative C – 1.81-MAF Sites Reservoir with Delevan Pipeline.** Alternative C includes a 1.81-MAF Sites Reservoir with conveyance to and from the reservoir provided by the existing T-C and GCID canals and a new Delevan Pipeline (2,000-cfs diversion/1,500-cfs release). This alternative also includes new hydropower facilities.

ES.2.5 Proposed Project Action Alternatives

Table ES-2 provides a summary list of proposed Project facilities for each action alternative.

**Table ES-2
Proposed Project Features by Action Alternative**

Project Feature	Component of		
	Alternative A	Alternative B	Alternative C
1.27-MAF Sites Reservoir (requires 9 dams total)	Yes	No	No
1.81-MAF Sites Reservoir (requires 11 dams total)	No	Yes	Yes
Golden Gate and Sites Dams	Yes	Yes	Yes
9 Saddle Dams	No	Yes	Yes
7 Saddle Dams	Yes	No	No
Up to 5 Recreation Areas	Yes	Yes	Yes
Road Relocations and South Bridge	Yes	Yes	Yes
Sites Pumping/Generating Plant	Yes; 5,900-cfs pumping capacity; 5,100 cfs generating capacity	Yes; 3,900-cfs pumping capacity; 5,100 cfs generating capacity	Yes; 5,900-cfs pumping capacity; 5,100 cfs generating capacity
Electrical Switchyards	Yes	Yes	Yes
Tunnel from Sites Pumping/Generating Plant to Sites Reservoir Inlet/Outlet Structure	Yes	Yes	Yes
Sites Reservoir Inlet/Outlet Structure	Yes	Yes	Yes
Field Office Maintenance Yard	Yes	Yes	Yes
Holthouse Reservoir Complex (includes Holthouse Reservoir and Dam, breached Funks Dam, existing Funks Reservoir Dredging, Holthouse Spillway and Stilling Basin, Holthouse Pumping Plant, T-C Canal Discharge Dissipater, T-C Canal Bypass Pipeline, and Holthouse to T-C Canal Pipeline)	Yes	Yes	Yes
Pump Installation at the Red Bluff Pumping Plant	Yes	Yes	Yes
GCID Canal Facilities Modifications	Yes	Yes	Yes
GCID Canal Connection to the Terminal Regulating Reservoir (TRR)	Yes	Yes	Yes
TRR (includes the TRR to Funks Creek Pipeline and Outlet)	Yes	Yes	Yes
TRR Pumping/Generating Plant	Yes	Yes	Yes

PRELIMINARY – SUBJECT TO CHANGE

**Table ES-2
Proposed Project Features by Action Alternative**

Project Feature	Component of		
	Alternative A	Alternative B	Alternative C
TRR Pipeline (3.5-mile-long pipeline to convey water from the TRR to Holthouse Reservoir) and TRR Pipeline Road	Yes	Yes	Yes
Delevan Transmission Line	Yes; Sites Pumping/Generating Plant to WAPA/PG&E ³ Line plus WAPA/PG&E Line to Sacramento River	Yes; Sites Pumping/Generating Plant to WAPA/PG&E Line	Yes; Sites Pumping/Generating Plant to WAPA/PG&E Line plus WAPA/PG&E Line to Sacramento River
Delevan Pipeline (2,000 cfs with 2 pipelines)	Yes	Yes	Yes
Delevan Pipeline Intake Facilities (includes fish screen and pumping/generating facilities)	Yes; 2,000 cfs diversion capacity; 1,500 cfs release capacity	No	Yes; 2,000 cfs diversion capacity; 1,500 cfs release capacity
Delevan Pipeline Discharge Facility	No	Yes; 1,500 cfs release capacity	No
Project Buffer	Yes	Yes	Yes
Potential Acreage of Temporary Land Use Impacts	17,680	19,637	19,636
Potential Acreage of Permanent Land Use Impacts	26,425	26,424	26,425

The following are Project-related ecosystem enhancement actions common to all action alternatives:

- Ecosystem Enhancement Storage Account—Operational Actions
- Ecosystem Enhancement Fund—Nonoperational Actions

Ecosystem enhancement actions have been designed to support the NODOS Project objective of increased fish survival. Based upon recommendations from federal and State fish agencies, the proposed Project would provide operational and nonoperational ecosystem enhancement actions. Conceptually, the operational and non-operational actions would be most effective if implemented concurrently. These proposed Project facilities, operational and non-operational actions, and proposed seasonal schedule for Project operations are discussed in further detail in Chapter 3 Description of the Proposed Project/Proposed Action and Alternatives.

ES.3 Summary of Potential Environmental Effects and Mitigation Commitments

Project operations were developed by DWR and Reclamation in coordination with State and federal resource agencies and local water interests to maximize a broad array of Project benefits (objectives) and minimize or avoid Project-related adverse effects. The operations evaluated in this environmental document represent an operational scenario designed to concurrently maximize achievement of the

³ The proposed Project would connect with either the existing PG&E Transmission Line or the existing WAPA Transmission Line.

Project objectives of improving water supply reliability, increasing the survival of anadromous fish, improving Delta water quality, and providing flexible hydropower generation. The impact analyses included in the resource chapters assess Sites Reservoir and the potential response of CVP and SWP facilities under each alternative using this single operational scenario.

The proposed Project action alternatives would affect environmental resources in all three study areas. Some of the impacts would be temporary, construction-related effects that would be less than significant or would be reduced to less-than-significant levels through mitigation. Other impacts would be permanent, some of which would remain significant and unavoidable despite proposed mitigation measures. In addition, some effects of the proposed Project would be beneficial.

Table ES-3 (provided at the end of this chapter) summarizes the impacts by environmental resource for each proposed Project alternative, the level of significance of the impact prior to mitigation, the proposed mitigation measure, and the level of significance of the impact after mitigation.

ES.3.1 Identified Significant and Unavoidable Impacts

As shown in Table ES-3, the proposed Project action alternatives would likely result in the following potentially significant and unavoidable direct and indirect impacts.

ES.3.1.1 Botanical Resources

Two plant species with suitable habitat around the proposed Sites Reservoir footprint edges were likely not adequately included in the reservoir footprint surveys of 1998-99, and therefore, may occur within the footprint: *Amsinckia lunaris* (CNPS List 1B) and *Sidalcea keckii* (CNPS List 1B and federally endangered). Construction of the proposed Sites Reservoir and Dams could therefore result in the loss of these species, as well as the loss of some CNPS List 4 species, for which mitigation measures may not be adequate to reduce impacts to less than significant levels.

ES.3.1.2 Terrestrial Biological Resources

Construction and filling of the proposed Sites Reservoir Inundation Area, as well as construction of the proposed Recreation Areas, would result in the permanent loss of foraging and nesting habitat for the golden eagle. Pursuant to the Bald and Golden Eagle Protection Act, implementation of mitigation measures would not reduce this impact to less than significant levels.

ES.3.1.3 Cultural Resources

Increased water level fluctuations at San Luis Reservoir and other service area reservoirs associated with proposed Project operations could impact significant archaeological sites, traditional cultural properties, or human remains. Because complete assessment of the effects of water level fluctuations on cultural resources has never been conducted, it is possible that mitigation measures would not reduce this impact to less than significant levels. Construction of the proposed Project facilities would affect built environment resources. If these resources are determined to be eligible for listing in the California Register of Historical Resources or National Register of Historic Places, mitigation measures would not reduce the impact to less than significant levels.

ES.3.1.4 Land Use

Construction and filling of the proposed Sites Reservoir Inundation Area would result in the physical division of the community of Sites, resulting in a significant and unavoidable impact. Construction of the

proposed Project facilities would result in conflicts or incompatibilities with existing and designated land uses and existing zoning for agricultural and forest land use, as well as the conversion of lands that have Williamson Act contracts. Implementation of mitigation measures may not reduce these impacts to less than significant levels.

ES.3.1.5 Air Quality

Construction activities associated with all proposed Primary Study Area Project facilities, as well as activities (such as use of roads, recreation, electricity generation and consumption, and sediment dredging) associated with the long-term operation and maintenance of the proposed Project, would result in significant and unavoidable emissions of PM₁₀, ROG, and NO_x.

ES.3.1.6 Climate Change and Greenhouse Gas Emissions

Increased electricity use associated with Project-related changes in CVP operations would be served by energy generated at CVP hydroelectric facilities that emit no GHGs and consequently would result in a corresponding reduction in supply of GHG-emissions-free electricity available to sell to California's electricity users. Substitute electricity supplies for this reduction may result in GHG emissions that would have a cumulatively considerable effect. Monitoring to measure the indirect change in emissions would not be feasible; mitigation would also therefore not be feasible.

ES.3.1.7 Visual Resources

The proposed South Bridge, Terminal Regulating Reservoir (TRR), and associated TRR facilities would be visually dominant and in high contrast to the surrounding landscape, resulting in a significant and unavoidable impact on a scenic vista. In addition, the proposed Sites Reservoir would have a significant impact on a scenic vista when water levels are drawn down during Dry to Critical water years and during some late summer months. The proposed Sites Reservoir and the proposed Road Relocations would impact large contiguous areas of grazing land and the proposed TRR and associated facilities would be visually intrusive due to their scale and designed height, causing substantial degradation of the existing visual character of the site. The large water surface of the proposed Sites Reservoir would also introduce a substantial new potential source of daytime and nighttime glare in the area.

ES.3.2 Short-Term Uses vs. Long-Term Productivity

NEPA requires consideration of the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity of the affected resources for a Proposed Action.

Implementation of any of the proposed Project action alternatives would require the construction of new facilities, improvements to existing facilities, the demolition of existing structures, removal of existing roads, and the inundation of lands. These activities would result in short-term and long-term impacts on the resources evaluated in this EIR/EIS.

Potential benefits of proposed Project implementation include improved water supply reliability for agricultural, urban, and environmental uses, and for Delta emergency response; increased survival of anadromous and endemic fish populations; improved drinking and environmental water quality in the Delta; increased flexible hydropower generation to support integration of renewable energy sources; improved local flood damage reduction; and increased recreational opportunities. Environmental uses and habitat for a variety of aquatic and terrestrial species along the Sacramento River and waterways within the study areas would also be maintained, and potentially enhanced, through the proposed ecosystem

enhancement storage account, and the proposed ecosystem enhancement fund. All of the action alternatives would also result in indirect and induced employment, as discussed in the Growth Inducing Impacts section. In addition, sales and profits for businesses that support the construction industry in the Primary Study Area would result in increased profits for the duration of the construction period.

In summary, the long-term benefits of the improved operational flexibility of the State's water system would outweigh the short-term and long-term adverse effects on the individual resources areas evaluated in this DEIS/EIR.

ES.3.3 Irreversible or Irretrievable Commitments

CEQA requires a discussion of the significant irreversible environmental changes that would be caused by the proposed Project should it be implemented. In addition, an EIS prepared under NEPA must analyze irreversible and irretrievable commitments of resources (NEPA Section 102(2)(c)(v) and 40 CFR 1502.16). Reclamation and other federal agencies have interpreted irreversible and irretrievable commitments to mean the use of nonrenewable resources and the effects this use would have for future generations. Irreversible commitment of resources occurs as a result of the use or destruction of a specific resource (e.g., minerals extraction, destruction of cultural resources) which cannot be replaced or, at a minimum, restored over a long period of time. Irretrievable commitment of resources refers to actions resulting in the loss of production, harvest, or use of natural resources. It represents opportunities foregone for the period of time that a resource cannot be used (e.g., land conversion to new uses; construction of levees preventing the natural flooding of flood plains). In other words, the production lost is irretrievable, but the action is not irreversible. If the use changes, it is possible to resume production. Irretrievable commitments of resources are evaluated to assure that proposed consumption is justified.

The commitment of resources would generally be similar for all of the proposed Project's action alternatives. The proposed Project would result in the irreversible and irretrievable commitment of the following resources during Project construction, operation, and maintenance:

- Construction materials, including wood, rock, soil and metal
- Energy expended in the form of electricity, gasoline, diesel fuel, oil, and lubricants for equipment and transportation vehicles that would be needed for Project construction, operation, and maintenance
- Construction labor
- Permanent changes in land use, including the conversion of prime agricultural land to other uses and the relocation of graves, at proposed Project facility locations due to land that would be committed to new and modified Project facilities and land areas inundated with water
- Changes in the visual resources and landscape character of lands where proposed Project facilities would be located, including large structures and new sources of light
- Effects on biological and cultural resources located at proposed Project facility locations, including vegetation removal, the disturbance of traditional cultural practices, and the disturbance of cultural resources potentially eligible for listing on the California Register of Historical Resources and the National Register of Historic Places

Some of these resources that would be used for the proposed Project are nonrenewable resources and are considered irretrievably and irreversibly committed because reuse is not possible or is highly unlikely.

However, nonrenewable resources are expected to account for a minimal portion of the region's resources and the proposed Project's use of nonrenewable resources would not affect the availability of these resources for other needs within the region.

CEQA Guidelines Section 15126.2 (c) also states that irreversible environmental damage can result from environmental accidents associated with a project. Construction of the proposed Project would result in the use, transport, storage, and disposal of hazardous wastes. DWR and Reclamation would require all construction, operation, and maintenance activities to comply with applicable federal, State, and local laws related to hazardous materials, which would significantly reduce the likelihood and severity of accidents that could cause irreversible environmental damage as a result of proposed Project construction, operation, and maintenance. In addition, the proposed Sites Reservoir dams would be designed and constructed pursuant to conservative guidelines and criteria designed to prevent failure.

ES.3.4 Growth-Inducing Impacts

Implementation of the proposed Project would improve water supply reliability for agricultural, urban, and environmental uses; improve water quality; provide more options for water management; increase recreational opportunities; and increase temporary and permanent employment opportunities. These Project-related changes would not be expected to result in growth-inducing effects for the following reasons.

ES.3.4.1 Improved Water Supply Reliability and Water Quality for Agricultural, Urban, and Environmental Uses

The expected increase in water yield associated with Project implementation would be within the range of projected increases of water supplies by major urban water users in their recent Urban Water Management Plans (UWMPs) to provide adequate water supplies for planned growth. Because the UWMPs have identified adequate water supplies to meet future water demands in 2030 for the Long-Term average and Dry and Critical Dry year conditions, it does not appear that lack of water supplies is an obstacle to growth in these major urban communities. Project-related increased water supply reliability is therefore not expected to be growth inducing.

The expected increased water deliveries to agricultural water users in the Extended Study Area, which would range from zero to five percent, are not expected to be growth inducing, and could reduce the potential to change adopted land use plans that would allow conversion of agricultural lands to urban uses.

ES.3.4.2 Increased Recreational Opportunities

Expected Project-related increased recreation expenditures would represent less than 0.2 percent of total industrial expenditures in the Primary Study Area and are therefore not anticipated to increase growth within the entire Primary Study Area. However, increased recreation use could adversely affect public services due to increased traffic. The expected increase in traffic would result in a less-than-significant impact with implementation of mitigation measures.

ES.3.4.3 Increased Employment Opportunities

The expected magnitude of Project-related increased employment opportunities in the agricultural sector would be less than one percent, when compared to the regional economy of the Extended Study Area, and is therefore not anticipated to result in growth-inducing impacts. Although the expected increased water

supply deliveries could result in increased employment and other economic benefits, the effects on housing and population are expected to be minor in the Extended Study Area, when compared to the total housing and population.

Project construction and operation would be expected to result in a minor increase in jobs and population in the Primary Study Area, which could be accommodated within available housing units. An adequate housing supply exists to accommodate the change in population, and as such, this expected increase associated with Project implementation is not anticipated to be growth inducing.

ES.3.5 Cumulative Impacts

The California Code of Regulations' Guidelines for the Implementation of the California Environmental Quality Act (CEQA Guidelines) and federal National Environmental Policy Act (NEPA) regulations require that the cumulative impacts of a proposed project be addressed in an Environmental Impact Report/Environmental Impact Statement (EIR/EIS). Cumulative impacts are impacts on the environment that result from the incremental impacts of a proposed action when added to other past, present, and reasonably foreseeable future actions.

The cumulative impact assessment for the proposed Project considered projects and programs identified under Existing Conditions (which includes the current effects of past projects) and reasonably foreseeable and probable future projects. The criterion for considering whether a project was reasonably foreseeable and probable in this EIR/EIS was whether the project had been defined in adequate detail, either through the completion of publicly available preliminary evaluations, feasibility studies, or draft environmental and engineering documents, to estimate potential impacts.

Projects considered in the cumulative impacts analysis included 11 multi-region projects and actions; two local agency projects and actions in the vicinity of the proposed NODOS Project facilities; 24 water supply, water quality, and hydropower projects and actions in the vicinity of the proposed NODOS Project facilities and/or potentially affected by SWP and CVP operations; and 21 ecosystem improvement projects and actions in the vicinity of the proposed NODOS Project facilities and/or potentially affected by SWP and CVP operations (refer to Chapter 35 Cumulative Impacts for the names descriptions of each of project considered).

Implementation of the proposed Project would result in the cumulatively considerable incremental contribution to an overall substantial cumulative adverse effect for the following resources.

ES.3.5.1 Botanical Resources

Adverse effects due to loss of vegetation within the inundation area of the proposed Sites Reservoir and within and adjacent to the inundation area of the proposed Holthouse Reservoir would potentially remain substantial and unavoidable following implementation of mitigation measures; in addition, the loss of botanical resources associated with some future projects in the Extended and Secondary study areas would be substantial and unavoidable

ES.3.5.2 Terrestrial Biological Resources

Adverse effects due to the loss of golden eagle nesting and foraging habitat within the inundation area of the proposed Sites Reservoir and some of the proposed Recreation Areas would remain substantial and unavoidable following implementation of mitigation measures; in addition, the loss of wildlife habitat

associated with some future projects in the Extended and Secondary study areas would be substantial and unavoidable

ES.3.5.3 Cultural Resources

Project-related water level fluctuations in the Extended Study Area could result in substantial effects to cultural resources because complete assessment of the effects of water level fluctuations on cultural resources has never been conducted; construction of the proposed Project facilities would result in potentially substantial and unavoidable effects to historic resources and traditional cultural properties; in addition, effects to cultural and historical resources due to disturbance or inundation from future projects within the Extended and Secondary study areas would be substantial and unavoidable

ES.3.5.4 Land Use

Construction of the proposed Project facilities would result in conflicts or incompatibilities with existing and designated land uses and existing zoning for agricultural and forest land use, as well as the conversion of lands that have Williamson Act contracts, which could remain substantial and unavoidable; the physical division of the community of Sites caused by inundation of the lands within the proposed Sites Reservoir would result in a substantial and unavoidable effect; in addition, future projects within the Extended and Secondary study areas would result in substantial and unavoidable changes in land uses and loss of agricultural lands

ES.3.5.5 Recreation Resources

Potential Project-related operational changes could result in reduced water surface elevations at San Luis Reservoir; in addition, future projects within the Extended and Secondary study areas could contribute to further reductions in summer water storage elevations and flows in rivers downstream of the CVP and SWP reservoirs

ES.3.5.6 Air Quality

Construction of the proposed Project facilities would result in substantial and unavoidable effects to air quality; in addition, future projects within the Extended and Secondary study areas would result in substantial and unavoidable effects to air quality

ES.3.5.7 Climate Change and Greenhouse Gas Emissions

Proposed Project operation would require a small increase in electricity usage to operate the CVP and would consequently reduce supply of GHG-emissions-free electricity available to sell to California electricity users - because it is unknown which type of power source would be used to substitute for the lost power, the proposed Project could result in potentially substantial and unavoidable effects to GHG emissions; in addition, operation of future projects within the Extended and Secondary study areas would result in potentially substantial and unavoidable effects to GHG emissions because it is unknown which type of power source would be used to provide the additional electricity needed for those projects

ES.3.5.8 Visual Resources

Substantial and unavoidable Project-related effects to visual resources would occur due to glare from the water surface of the proposed Sites Reservoir, changes in the visual characteristic of the area from rural and undeveloped to an area with more infrastructure such as the proposed South Bridge and connecting roadways, and change in views across the valley floor due to the six-foot high embankments of the

proposed Terminal Regulating Reservoir; in addition, future projects within the Extended and Secondary study areas would result in substantial and unavoidable effects to visual resources

ES.3.6 Responsibilities for Mitigation Monitoring Plan and Implementation

As part of proposed Project planning and environmental assessment, DWR, Reclamation and/or other partners would incorporate certain environmental commitments and best management practices into the action alternatives to avoid or minimize potential impacts. Reclamation would also coordinate planning, engineering, design and construction, operation, and maintenance phases of the proposed Project with applicable resource agencies. The following environmental commitments would be incorporated into any action alternative for any Project-related construction activities:

- Conduct DWR Environmental Site Assessment
- Develop and Implement Construction Management Plan
- Comply with Permit Terms and Conditions
- Develop and Implement Erosion and Sediment Control Plan
- Develop and Implement Stormwater Pollution Prevention Plan
- Develop and Implement Feasible Spill Prevention and Control Plan
- Implement Fisheries Conservation Measures
- Implement Water Quality Protection Measures
- Prepare and Implement Revegetation Plan
- Asphalt Removal

A detailed Mitigation Monitoring Plan is provided in Appendix 1A.

ES.4 Coordination with Concerned Agencies and Stakeholders

In accordance with NEPA and CEQA, DWR and Reclamation have conducted the following public scoping and agency coordination and consultation activities. Further information is provided in Chapter 36 Consultation and Coordination.

ES.4.1 Public Scoping

DWR and Reclamation notified interested parties of the scoping period and upcoming public scoping meetings through electronic and postal mailings and through publication of the NOP and NOI. Public notifications were also made through direct mailings to local landowners in and near the Sites and Newville reservoir alternative sites, and by advertisements in four local newspapers prior to the public meetings. In addition, a news release was placed on the DWR and Reclamation website homepages.

DWR and Reclamation conducted three scoping meetings (one meeting each in Sacramento, Maxwell, and Fresno, CA) to seek public input and comments prior to the preparation of the EIR/EIS. In addition, DWR and Reclamation held a scoping meeting with the Native American tribes in Williams, CA. At the scoping meetings and during the scoping comment period, the public was invited to submit written comments regarding the scope, content, and format of the environmental document by mail, fax, or email to representatives at DWR and Reclamation. A Scoping Report, which was prepared at the end of the scoping meetings and comment period, is included in Appendix 36A.

ES.4.2 Consultation

Since late 2001, DWR and Reclamation have met with the following stakeholders, interested parties, and State and federal regulatory agencies, including:

- Environmental Interests, County Boards of Supervisors, and Water Contractors
- Sacramento River Flow Regime Technical Advisory Group (TAG)
- California Bay-Delta Public Advisory Committee, Water Supply Subcommittee Briefings
- Common Assumptions Stakeholder Technical Workgroup
- Area Landowners
- Study Area Tours

ES.4.3 Coordination

Coordination efforts with local water interests, counties, and other State and federal agencies throughout the environmental documentation process included the following:

- Sites Memorandum of Understanding Partners
- Sites Project Joint Powers Authority
- Cooperating Agencies (Bureau of Indian Affairs, Western Area Power Administration, USACE, Colusa Indian Community Council, Cortina Indian Rancheria, and Sites Project JPA)
- Responsible Agencies (CDFW, State Water Resources Control Board, Central Valley Regional Water Quality Control Board - Central Valley Region 1, Tehama-Colusa Canal Authority, Glenn-Colusa Irrigation District, and Sites Project JPA)
- Trustee Agencies (CDFW, California State Lands Commission, California Department of Parks and Recreation, and University of California)
- Native American Representatives (Colusa Indian Community Council, Cortina Indian Rancheria, Grindstone Indian Rancheria, and Paskenta Band of Nomlaki Indians)
- Environmental Coordination Advisory Team (DWR, Reclamation, CDFW, USFWS, NMFS/NOAA Fisheries, CVRWQCB, USEPA, and USACE)

ES.5 Preliminary Administrative Draft EIR

The Preliminary Administrative Draft EIR has not been reviewed or approved for adequacy in meeting CEQA and NEPA requirements. The California Department of Water Resources (DWR) is releasing this document to provide decision-makers, stakeholders, and the public with up-to-date and detailed information on the investigation.

Release of this material does not constitute the initiation of formal public review of the Draft EIR as provided by CEQA Guidelines Section 15087. Although comments are welcome and may be considered in preparation of the Draft EIR, DWR will not respond to comments received on this document.

Please note the following reading guidance for this preliminary administrative draft. Refer to the summary Table of Contents for a list of chapters and appendixes. At this time, a detailed Table of Content, List of Abbreviations and Acronyms, Index, and Chapter 37, References, are not included. Abbreviations and acronyms are defined at first use in each chapter, and references are included in a

References section at the end of each chapter and appendixes when necessary. Some chapters/appendixes include figures and tables at the end of the chapters/appendixes.

In the future, a Public Draft EIR/EIS will be circulated for public and agency review and comment. The public review process and Proposed Project/Proposed Action approval process is discussed in Chapter 36 Consultation and Coordination.

ES.6 References

Baxter R, R Breuer, L Brown, L Conrad, F Feyrer, S Fong, K Gehrts, L Grimaldo, B Herbold, P Hrodey, A Mueller-Solger, T Sommer, and K Souza. 2010. Interagency Ecological Program 2010 Pelagic organism decline work plan and synthesis of results through August 2010. Interagency Ecological Program for the San Francisco Estuary. 125 pages.

CALFED Bay-Delta Program (CALFED). 2000. CALFED Initial Surface Water Storage Screening. August.

California Department of Water Resources (DWR). 2009. California Water Plan Update 2009, Integrated Water Management. Bulletin 160-09. December.

National Marine Fisheries Service (NMFS). 2009. Public draft recovery plan for the Evolutionarily Significant Units of Sacramento River winter-run Chinook salmon and Central Valley spring-run Chinook Salmon and the Distinct Population Segment of Central Valley steelhead. National Marine Fisheries Service, Protected Resources Division. Sacramento, CA. 273 pp.

Table

Table ES-3
Summary of Environmental Effects by Resource

Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
6. Surface Water Resources						
Impact Water Supply-1: A decrease in average annual CVP or SWP deliveries of greater than one percent with implementation of Alternatives A, B, and C, when compared to deliveries associated with the No Project/No Action Alternative						
Extended, Secondary and Primary Study Areas	N/A				None	N/A
CVP Contract Deliveries	N/A				None	N/A
Annual Long-Term Averages	N/A	Potentially Beneficial Effect	Potentially Beneficial Effect	Potentially Beneficial Effect	None	N/A
Annual Dry and Critical Years Averages	N/A	Potentially Beneficial Effect	Potentially Beneficial Effect	Potentially Beneficial Effect	None	N/A
SWP Contract Deliveries	N/A				None	N/A
Annual Long-Term Averages	N/A	Potentially Beneficial Effect	Potentially Beneficial Effect	Potentially Beneficial Effect	None	N/A
Annual Dry and Critical Years Averages	N/A	Potentially Beneficial Effect	Potentially Beneficial Effect	Potentially Beneficial Effect	None	N/A
7. Surface Water Quality						
Impact SW Qual-1: A Violation of any Water Quality Standard or Waste Discharge Requirement, a Change in Surface Water Quality Resulting in Adverse Effects to Designated Beneficial Uses of Surface Water, or Otherwise Substantially Degrade Surface Water Quality						
Extended Study Area						
Agricultural, Municipal, Industrial, and Wildlife Refuge Water Use, San Luis Reservoir	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Secondary Study Area						
Trinity Lake, Lewiston Lake, Trinity River, Klamath River downstream from Trinity River, Whiskeytown Lake, Spring Creek, Shasta Lake, Keswick Reservoir, Clear Creek, Sacramento River, Lake Oroville, Thermalito Complex, Feather River, Sutter Bypass, Yolo Bypass, Folsom Lake, Lake Natoma, American River	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Pump Installation at the Red Bluff Pumping Plant	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Sacramento-San Joaquin Delta	No Substantial Adverse Effect / Potentially Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Suisun Bay, San Pablo Bay, San Francisco Bay	Potentially Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A

Table ES-3: Summary of Environmental Effects by Resource

Table ES-3 Summary of Environmental Effects by Resource						
Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Primary Study Area	No Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area	N/A	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	SW Qual-1a: Implement a Water Quality Monitoring, Modeling, and Operations Coordination Program to Protect Beneficial Uses	Less than Significant
					SW Qual-1b: Excavate and remove, or consolidate and cap, Salt Lake	
					SW Qual-1c (1): Implement soil stabilization and sediment control BMPs	
					SW Qual-1c (2): Prepare and Implement a Stormwater Pollution Prevention Plan	
					SW Qual-1e: Prepare and Implement a Stormwater Pollution Prevention Plan	
					SW Qual-1f: Implement BMPs including diversion ditches, berms, pipelines, sheet piles, and coffer dams	
					SW Qual-1g: Implement Caltrans Field Guide to Construction Site Dewatering	
					SW Qual-1h: Implement concrete waste management BMPs	
					SW Qual-1i: Implement vehicle and equipment cleaning procedures and practices	
					SW Qual-1j: Implement vehicle and equipment fueling procedures and practices	
					SW Qual-1k: Implement appropriate vehicle and equipment maintenance procedures and practices	
					SW Qual-1l: Implement appropriate pile driving procedures and practices	
Sites Reservoir Dams	N/A	Less than Significant / Potentially Significant	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	SW Qual-1c through SW Qual-1l	Less than Significant
Recreation Areas	N/A	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	SW Qual-1c through SW Qual-1f and SW Qual-1h through SW Qual-1l	Less than Significant
Road Relocations and South Bridge	N/A	Potentially Significant	Potentially Significant	Potentially Significant	SW Qual-1c through SW Qual-1l	Less than Significant
Sites Pumping/Generating Plant, Sites Reservoir Inlet/Outlet Structure, Tunnel	N/A	No Impact/ Less than Significant/ Potentially Significant	No Impact/ Less than Significant/ Potentially Significant	No Impact/ Less than Significant/ Potentially Significant	SW Qual-1c through SW Qual-1l	Less than Significant
Sites Electrical Switchyard, Delevan Pipeline Electrical Switchyard	N/A	No Impact/ Potentially Significant	No Impact/ Potentially Significant	No Impact/ Potentially Significant	SW Qual-1c through SW Qual-1l	Less than Significant
Delevan Transmission Line	N/A	No Impact/ Potentially Significant	No Impact/ Potentially Significant	No Impact/ Potentially Significant	SW Qual-1c through SW Qual-1f and Mit SW Qual-1h through SW Qual-1l	Less than Significant
Field Office Maintenance Yard	N/A	Potentially Significant	Potentially Significant	Potentially Significant	SW Qual-1c through SW Qual-1l	Less than Significant
Holthouse Reservoir Complex	N/A	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	SW Qual-1a and SW Qual-1c through SW Qual-1l	Less than Significant
Holthouse Reservoir Electrical Switchyard	N/A	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	SW Qual-1c through SW Qual-1l	Less than Significant
GCID Canal Facilities Modifications	N/A	Potentially Significant	Potentially Significant	Potentially Significant	SW Qual-1c and SW Qual-1e	Less than Significant
TRR	N/A	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	SW Qual-1a and SW Qual-1c through SW Qual-1l	Less than Significant
GCID Canal Connection to the TRR, TRR Pumping/Generating Plant, TRR Pipeline, TRR Electrical Switchyard, TRR Pipeline Road	N/A	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	SW Qual-1c through SW Qual-1l	Less than Significant

Table ES-3
Summary of Environmental Effects by Resource

Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Delevan Pipeline	N/A	No Impact/ Less than Significant/ Potentially Significant	No Impact/ Less than Significant/ Potentially Significant	No Impact/ Less than Significant/ Potentially Significant	SW Qual-1c through SW Qual-1I	Less than Significant
Delevan Pipeline Intake Facilities	N/A	Potentially Significant	N/A	Potentially Significant	SW Qual-1c through SW Qual-1I	Less than Significant
Project Buffer	N/A	No Impact/ Less than Significant/ Potentially Significant	No Impact/ Less than Significant/ Potentially Significant	No Impact/ Less than Significant/ Potentially Significant	SW Qual-1c through SW Qual-1I	Less than Significant
Delevan Pipeline Discharge Facilities	N/A	N/A	Less than Significant/ Potentially Significant	N/A	SW Qual-1c through SW Qual-1I	Less than Significant
Impact SW Qual-2: A Violation of any Regulatory Temperature Criteria or Temperature Targets						
Extended Study Area	N/A	N/A	N/A	N/A	None	N/A
Secondary Study Area					None	N/A
Trinity Lake, Lewiston Lake, Trinity River, Klamath River downstream from Trinity River, Whiskeytown Lake, Spring Creek, Keswick Reservoir, Clear Creek	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Shasta Lake	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Sacramento River	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Pump Installation at the Red Bluff Pumping Plant	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Lake Oroville, Thermalito Complex, Feather River	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Sutter Bypass, Yolo Bypass	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Folsom Lake, Lake Natoma	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
American River	Potentially Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Sacramento-San Joaquin Delta	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Suisun Bay, San Pablo Bay, San Francisco Bay	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Sites Reservoir Dams	N/A	No Impact/ Less than Significant	No Impact/ Less than Significant	No Impact/ Less than Significant	None	N/A
Recreation Areas	N/A	No Impact	No Impact	No Impact	None	N/A
Road Relocations and South Bridge	N/A	No Impact	No Impact	No Impact	None	N/A
Sites Pumping/Generating Plant, Sites Reservoir Inlet/Outlet Structure, Tunnel	N/A	No Impact/ Less than Significant	No Impact/ Less than Significant	No Impact/ Less than Significant	None	N/A
Sites Electrical Switchyard, Delevan Pipeline Electrical Switchyard, Delevan Transmission Line	N/A	No Impact	No Impact	No Impact	None	N/A
Field Office Maintenance Yard	N/A	No Impact	No Impact	No Impact	None	N/A
Holthouse Reservoir Complex	N/A	No Impact / Less than Significant	No Impact/ Less than Significant	No Impact/ Less than Significant	None	N/A
Holthouse Reservoir Electrical Switchyard	N/A	No Impact	No Impact	No Impact	None	N/A
GCID Canal Facilities Modifications	N/A	No Impact	No Impact	No Impact	None	N/A

Table ES-3: Summary of Environmental Effects by Resource

Table ES-3 Summary of Environmental Effects by Resource						
Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
GCID Canal Connection to the TRR, TRR, TRR Pumping/Generating Plant, TRR Pipeline, TRR Electrical Switchyard, TRR Pipeline Road	N/A	No Impact/ Less than Significant	No Impact/ Less than Significant	No Impact/ Less than Significant	None	N/A
Delevan Pipeline	N/A	No Impact	No Impact	No Impact	None	N/A
Delevan Pipeline Intake Facilities	N/A	Less than Significant	N/A	Less than Significant	None	N/A
Project Buffer	N/A	No Impact	No Impact	No Impact	None	N/A
Delevan Pipeline Discharge Facilities	N/A	N/A	Less than Significant	N/A	None	N/A
8. Fluvial Geomorphology and Riparian Habitat						
Impact Geom-1: Substantial Alteration of Natural River Processes and Characteristics						
Extended Study Area	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Secondary Study Area						
Streamflow; Sediment concentration, turbidity or water clarity	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Red Bluff Pumping Plant	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Reduction of suspended sediment in spawning gravel, agricultural fields, navigable waters, and in weirs and bypasses	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Primary Study Area	N/A				None	N/A
Delevan Pipeline Intake Facilities	N/A	No Impact/ Less than Significant	N/A	Less than Significant	None	N/A
Delevan Pipeline Discharge Facility	N/A	N/A	Less than Significant	N/A	None	N/A
Impact Geom-2: Substantial Alteration of Natural River Meandering, Bank Erosion, and Deposition, and Substantial Alteration of Riparian Vegetation and Habitat Complexity						
Extended Study Area	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Secondary Study Area	No Substantial Adverse Effect				None	N/A
Sand deposition on beaches	N/A	No Impact	No Impact	No Impact	None	N/A
Meander downstream of proposed Intake/Discharge Facilities	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Sacramento River bank erosion and meander rates	N/A	Beneficial	Less than Significant	Beneficial	None	N/A
Sediment deposition	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Sediment deposition, woody debris, shaded riverine aquatic habitat, spawning gravel	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Primary Study Area	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Impact Geom-3: Substantial alteration of the Amount of Large Woody Debris, Boulders, Shaded Riverine Aquatic Habitat, or Spawning Gravel in Rivers, with Effects on Fish Habitat						
Extended Study Area	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Secondary Study Area						
Most of Secondary Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Bedload movement, riparian recruitment, shaded riverine aquatic habitat, large woody debris, and spawning gravel	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Primary Study Area	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A

Table ES-3
Summary of Environmental Effects by Resource

Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
9. Flood Control						
Impact Flood-1: Substantially alter the Existing Drainage Pattern of the Site or Project Area, Including through the Alteration of the Course of a Stream or River, or Substantially Increase the Rate or Amount of Surface Runoff in a Manner which would Result in Flooding On- or Off-site						
Extended Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Secondary Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area, Sites Reservoir Dams	N/A				None	N/A
Construction	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Operation	N/A	Significant/ Potentially Beneficial	Significant/ Potentially Beneficial	Significant/ Potentially Beneficial	Flood-1: Maintain Permanent Low Flow Releases into Stone Corral and Funks Creeks Downstream of Sites and Golden Gate Dams	Less than Significant
Maintenance	N/A	No Impact	No Impact	No Impact	None	N/A
Sites Pumping/Generating Plant, Tunnel, Sites Reservoir Inlet/Outlet Structure, Sites Electrical Switchyard, Field Office Maintenance Yard	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Recreation Areas, Road Relocations and South Bridge, GCID Canal Facilities Modifications, Holthouse Reservoir Complex, Holthouse Reservoir Electrical Switchyard, TRR, TRR Pumping/Generating Plant, TRR Electrical Switchyard, GCID Canal Connection to the TRR, TRR Pipeline, TRR Pipeline Road, Delevan Transmission Line, Delevan Pipeline Electrical Switchyard, Delevan Pipeline	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Delevan Pipeline Intake Facilities	N/A	Less than Significant	N/A	Less than Significant	None	N/A
Project Buffer	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Delevan Pipeline Discharge Facility	N/A	N/A	Less than Significant	N/A	None	N/A
Impact Flood-2: Place within a 100-year Flood Hazard Area Structures which Could Impede or Redirect Flood Flows						
Extended Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Secondary Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area, Sites Reservoir Dams	N/A					
Construction	N/A	Potentially Beneficial	Potentially Beneficial	Potentially Beneficial	None	N/A
Operation	N/A	Potentially Beneficial	Potentially Beneficial	Potentially Beneficial	None	N/A
Maintenance	N/A	No Impact	No Impact	No Impact	None	N/A
Sites Pumping/Generating Plant, Tunnel, Sites Reservoir Inlet/Outlet Structure, Sites Electrical Switchyard, Field Office Maintenance Yard	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Recreation Areas	N/A	No Impact	No Impact	No Impact	None	N/A
Road Relocations and South Bridge, GCID Canal Facilities Modifications, Holthouse Reservoir Complex, Holthouse Reservoir Electrical Switchyard, TRR, TRR Pumping/Generating Plant, TRR Electrical Switchyard, GCID Canal Connection to the TRR, TRR Pipeline, TRR Pipeline Road, Delevan Transmission Line, Delevan Pipeline Electrical Switchyard, Delevan Pipeline	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Delevan Pipeline Intake Facilities	N/A	Less than Significant	N/A	Less than Significant	None	N/A
Project Buffer	N/A	No Impact	No Impact	No Impact	None	N/A
Delevan Pipeline Discharge Facility	N/A	N/A	Less than Significant	N/A	None	N/A

Table ES-3: Summary of Environmental Effects by Resource

Table ES-3 Summary of Environmental Effects by Resource						
Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Impact Flood-3: Expose People or Structures to a Significant Risk of Loss, Injury, or Death from Flooding, Including Flooding as a Result of the Failure of a Levee or Dam						
Extended Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Secondary Study Area	No Substantial Adverse Effect				None	N/A
Red Bluff Pumping Plant	N/A	No Impact	No Impact	No Impact	None	N/A
Coordinated operation	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area, Sites Reservoir Dams	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Sites Pumping/Generating Plant, Tunnel, Sites Reservoir Inlet/Outlet Structure, Sites Electrical Switchyard, Field Office Maintenance Yard, Recreation Areas, Road Relocations and South Bridge, GCID Canal Facilities Modifications, Delevan Transmission Line, Delevan Pipeline Electrical Switchyard, Delevan Pipeline	N/A	No Impact	No Impact	No Impact	None	N/A
Holthouse Reservoir Complex, Holthouse Reservoir Electrical Switchyard, TRR, TRR Pumping/Generating Plant, TRR Electrical Switchyard, GCID Canal Connection to the TRR, TRR Pipeline, TRR Pipeline Road	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Delevan Pipeline Intake Facilities	N/A	Less than Significant	N/A	Less than Significant	None	N/A
Project Buffer	N/A	No Impact	No Impact	No Impact	None	N/A
Delevan Pipeline Discharge Facility	N/A	N/A	Less than Significant	N/A	None	N/A
10. Groundwater Resources						
Impact GW Res-1: Substantial Depletion of Groundwater Supplies or Substantial Interference with Groundwater Recharge Resulting in a Net Deficit in Aquifer Volume or a Lowering of the Local Groundwater Table Level, Causing Effects on Existing Land Uses or Planned Uses						
Extended Study Area	No Substantial Adverse Effect	No Impact/ Less than Significant	No Impact/ Less than Significant	No Impact/ Less than Significant	None	N/A
Secondary Study Area	Potentially Substantial Adverse Effect				None	N/A
Reservoir storage/flow regime changes	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Pump Installation at the Red Bluff Pumping Plant	N/A	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area, Sites Reservoir Dams	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Recreation Areas, Road Relocations and South Bridge, Project Buffer	N/A	No Impact	No Impact	No Impact	None	N/A
Sites Pumping/Generating Plant, Sites Electrical Switchyard, Tunnel, Sites Reservoir Inlet/Outlet Structure, Field Office Maintenance Yard, Holthouse Reservoir Complex, Holthouse Reservoir Electrical Switchyard, TRR, TRR Pumping/Generating Plant, TRR Electrical Switchyard, GCID Canal Connection to the TRR, TRR Pipeline, TRR Pipeline Road, GCID Canal Facilities Modifications; Delevan Pipeline, Delevan Pipeline Electrical Switchyard, Delevan Transmission Line	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Delevan Pipeline Intake Facilities	N/A	Less than Significant	N/A	Less than Significant	None	N/A
Delevan Pipeline Discharge Facility	N/A	N/A	Less than Significant	N/A	None	N/A
Impact GW Res-2: Increases in Groundwater Levels Resulting in Adverse Effects to Environmental Conditions and/or Existing Land Uses or Planned Uses						
Extended Study Area	No Impact	No Impact/ Less than Significant	No Impact/ Less than Significant	No Impact/ Less than Significant	None	N/A
Secondary Study Area	No Substantial Adverse Effect				None	N/A
Reservoir Storage/flow regime changes	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Pump Installation at the Red Bluff Pumping Plant	N/A	No Impact	No Impact	No Impact	None	N/A

Table ES-3
Summary of Environmental Effects by Resource

Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Primary Study Area	No Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area, Sites Reservoir Dams	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Recreation Areas	N/A	No Impact	No Impact	No Impact	None	N/A
Road Relocations and South Bridge, Sites Pumping/Generating Plant, Sites Electrical Switchyard, Tunnel, Sites Reservoir Inlet/Outlet Structure, Field Office Maintenance Yard, Holthouse Reservoir Electrical Switchyard, GCID Canal Facilities Modifications, Delevan Pipeline, Delevan Pipeline Electrical Switchyard, Delevan Transmission Line, Project Buffer	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Holthouse Reservoir Complex	N/A	Potentially Significant	Potentially Significant	Potentially Significant	GW Res-2: Monitor and Lower Groundwater Levels as Necessary	Less than Significant
					Bot-1d: Conduct Groundwater Hydrological Studies	Less than Significant or Potentially Significant and Unavoidable
TRR, TRR Pumping/Generating Plant, TRR Electrical Switchyard, GCID Canal Connection to the TRR, TRR Pipeline, TRR Pipeline Road	N/A	Potentially Significant	Potentially Significant	Potentially Significant	GW Res-2	Less than Significant
Delevan Pipeline Intake Facilities	N/A	Potentially Significant	N/A	Potentially Significant	GW Res-2	Less than Significant
Delevan Pipeline Discharge Facility	N/A	N/A	Less than Significant	N/A	None	N/A
11. Groundwater Quality						
Impact GW Qual-1: A Violation of any Water Quality Standards or Waste Discharge Requirements, a Change in Groundwater Quality Resulting in Adverse Effects to Designated Beneficial Uses of Groundwater, or Otherwise Substantially Degrade Groundwater Quality						
Extended Study Area	Potentially Substantial Adverse Effect				None	N/A
Groundwater Use- Construction	N/A	No Impact	No Impact	No Impact	None	N/A
Agricultural, Municipal, and Industrial Water Use	N/A	Potentially Beneficial	Potentially Beneficial	Potentially Beneficial	None	N/A
Level 4 Wildlife Refuge Water Use	N/A	No Impact	No Impact	No Impact	None	N/A
San Luis Reservoir	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Secondary Study Area						
Groundwater Recharge	Potentially Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Pump Installation at the Red Bluff Pumping Plant	N/A	No Impact	No Impact	No Impact	None	N/A
Hazardous Materials	N/A	Potentially Significant	Potentially Significant	Potentially Significant	SW Qual-1e: Prepare and Implement a Stormwater Pollution Prevention Plan	Less than Significant
Primary Study Area						
Groundwater Use	No Substantial Adverse Effect	N/A	N/A	N/A	None	N/A
Sites Reservoir Inundation Area	N/A				None	N/A
Groundwater Recharge	N/A	Potentially Beneficial	Potentially Beneficial	Potentially Beneficial	None	N/A
Hazardous Materials	N/A	Potentially Significant	Potentially Significant	Potentially Significant	SW Qual-1e	Less than Significant
Abandoned Wells, Septic Systems, or Underground Storage Tanks	N/A	Potentially Significant	Potentially Significant	Potentially Significant	GW Qual-1b: Implement DWR and County Standards for the Proper Abandonment of Wells, Boreholes, and Septic Systems	Less than Significant

Table ES-3: Summary of Environmental Effects by Resource

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Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Sites Reservoir Dams	N/A				None	N/A
Groundwater Recharge	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Hazardous Materials	N/A	Potentially Significant	Potentially Significant	Potentially Significant	SW Qual-1e	Less than Significant
Abandoned Wells, Septic Systems, or Underground Storage Tanks	N/A	Potentially Significant	Potentially Significant	Potentially Significant	GW Qual-1b	Less than Significant
Dewatering	N/A	Potentially Significant	Potentially Significant	Potentially Significant	GW Qual-1c: Implement Caltrans Field Guide to Construction Site Dewatering	Less than Significant
Recreation Areas	N/A				None	N/A
Hazardous Materials	N/A	Potentially Significant	Potentially Significant	Potentially Significant	SW Qual-1e	Less than Significant
Abandoned Wells, Septic Systems, or Underground Storage Tanks	N/A	Potentially Significant	Potentially Significant	Potentially Significant	GW Qual-1b	Less than Significant
Septic System, Leach Field, and Vault Toilet Construction	N/A	Potentially Significant	Potentially Significant	Potentially Significant	GW Qual-1e: Construct Septic Systems, Leach Fields, and Vault Toilets in Accordance with County Permit Specifications	Less than Significant
Road Relocations and South Bridge	N/A				None	N/A
Hazardous Materials- Construction	N/A	Potentially Significant	Potentially Significant	Potentially Significant	SW Qual-1e	Less than Significant
Hazardous Materials- Operation	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Abandoned Wells, Septic Systems, or Underground Storage Tanks	N/A	Potentially Significant	Potentially Significant	Potentially Significant	GW Qual-1b	Less than Significant
Dewatering	N/A	Potentially Significant	Potentially Significant	Potentially Significant	GW Qual-1c	Less than Significant
Sites Pumping/Generating Plant, Sites Electrical Switchyard, Tunnel, Sites Reservoir Inlet/Outlet Structure, Field Office Maintenance Yard	N/A				None	N/A
Hazardous Materials	N/A	Potentially Significant	Potentially Significant	Potentially Significant	SW Qual-1e	Less than Significant
Abandoned Wells, Septic Systems, or Underground Storage Tanks	N/A	Potentially Significant	Potentially Significant	Potentially Significant	GW Qual-1b	Less than Significant
Dewatering	N/A	Potentially Significant	Potentially Significant	Potentially Significant	GW Qual-1c	Less than Significant
Septic System and Leach Field Construction	N/A	Potentially Significant	Potentially Significant	Potentially Significant	GW Qual-1e	Less than Significant
Holthouse Reservoir Complex, Holthouse Reservoir Electrical Switchyard	N/A				None	N/A
Groundwater Recharge - construction	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Groundwater Recharge - operation	N/A	Beneficial	Beneficial	Beneficial	None	N/A
Hazardous Materials	N/A	Potentially Significant	Potentially Significant	Potentially Significant	SW Qual-1e	Less than Significant
Abandoned Wells, Septic Systems, or Underground Storage Tanks	N/A	Potentially Significant	Potentially Significant	Potentially Significant	GW Qual-1b	Less than Significant
Dewatering	N/A	Potentially Significant	Potentially Significant	Potentially Significant	GW Qual-1c	Less than Significant
TRR, TRR Pipeline, TRR Pipeline Road, TRR Pumping/Generating Plant, TRR Electrical Switchyard, and GCID Canal Connection to the TRR	N/A				None	N/A
Groundwater Recharge	N/A	Beneficial	Beneficial	Beneficial	None	N/A
Hazardous Materials	N/A	Potentially Significant	Potentially Significant	Potentially Significant	SW Qual-1e	Less than Significant
Abandoned Wells, Septic Systems, or Underground Storage Tanks	N/A	Potentially Significant	Potentially Significant	Potentially Significant	GW Qual-1b	Less than Significant
Dewatering	N/A	Potentially Significant	Potentially Significant	Potentially Significant	GW Qual-1c	Less than Significant
Underground Utilities	N/A	Potentially Significant	Potentially Significant	Potentially Significant	GW Qual-1d: Identify Underground Utilities Prior to Start of Construction	Less than Significant
GCID Canal Facilities Modifications	N/A				None	N/A
Groundwater Recharge	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Hazardous Materials	N/A	Potentially Significant	Potentially Significant	Potentially Significant	SW Qual-1e	Less than Significant
Delevan Transmission Line	N/A				None	N/A
Hazardous Materials	N/A	Potentially Significant	Potentially Significant	Potentially Significant	SW Qual-1e	Less than Significant

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Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Delevan Pipeline, Delevan Pipeline Electrical Switchyard	N/A				None	N/A
Hazardous Materials	N/A	Potentially Significant	Potentially Significant	Potentially Significant	SW Qual-1e	Less than Significant
Dewatering	N/A	Potentially Significant	Potentially Significant	Potentially Significant	GW Qual-1c	Less than Significant
Underground Utilities	N/A	Potentially Significant	Potentially Significant	Potentially Significant	GW Qual-1d	Less than Significant
Delevan Pipeline Intake Facilities	N/A		N/A		None	N/A
Groundwater Recharge	N/A	Potentially Beneficial	N/A	Potentially Beneficial	None	N/A
Hazardous Materials	N/A	Potentially Significant	N/A	Potentially Significant	SW Qual-1e	Less than Significant
Dewatering	N/A	Potentially Significant	N/A	Potentially Significant	GW Qual-1c	Less than Significant
Project Buffer	N/A				None	N/A
Groundwater Recharge	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Hazardous Materials	N/A	Potentially Significant	Potentially Significant	Potentially Significant	SW Qual-1e	Less than Significant
Delevan Pipeline Discharge Facility	N/A	N/A		N/A	None	N/A
Groundwater Recharge	N/A	N/A	Less than Significant	N/A	None	N/A
Hazardous Materials	N/A	N/A	Potentially Significant	N/A	SW Qual-1e	Less than Significant
Dewatering	N/A	N/A	Potentially Significant	N/A	GW Qual-1c	Less than Significant
12. Aquatic Biological Resources						
Impact Fish-1: A substantial adverse effect (either directly, through habitat modifications, by interfering with the movement of native fish species, or by impeding the use of native fish nursery/rearing sites) on any fish species of primary management concern, including species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFG, NMFS or USFWS.						
Extended and Secondary Study Area						
Reservoir Coldwater Fish Species	No Substantial Adverse Effect	Less than Significant/ Potentially Beneficial	Less than Significant/ Potentially Beneficial	Less than Significant/ Potentially Beneficial/ Potentially Significant	Fish-1a: Increase Stocking Frequency of Coldwater Fish Species	Less than Significant
Reservoir Warmwater Fish Species	No Substantial Adverse Effect	Less than Significant/ Potentially Beneficial	Less than Significant/ Potentially Beneficial	Less than Significant/ Potentially Beneficial	None	N/A
Southern Oregon/Northern California Coho Salmon; Upper Klamath-Trinity River Fall-Run and Spring-Run Chinook Salmon; Klamath Mountains Province Steelhead; Delta Smelt; Longfin Smelt	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Sacramento River Winter-Run Chinook Salmon						
Pump Installation at the Red Bluff Pumping Plant	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Fish-1c: Prepare and Implement a Stormwater Pollution Prevention Plan and an Erosion and Sediment Control Plan Prior to the Initiation of Construction Activities	Less than Significant
					Fish-1d: Prepare and Implement a Spill Prevention and Hazardous Materials Management Plan Prior to the Initiation of Construction Activities	Less than Significant
Operation	No Substantial Adverse Effect	Less than Significant/ Potentially Beneficial	Less than Significant/ Potentially Beneficial	Less than Significant/ Potentially Beneficial	None	N/A
Central Valley Spring-Run Chinook Salmon						
Pump Installation at the Red Bluff Pumping Plant	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Fish-1c and Fish-1d	Less than Significant
Operation	No Substantial Adverse Effect	Less than Significant/ Potentially Beneficial	Less than Significant/ Potentially Beneficial	Less than Significant/ Potentially Beneficial	None	N/A

Table ES-3: Summary of Environmental Effects by Resource

Table ES-3 Summary of Environmental Effects by Resource						
Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Central Valley Fall-Run Chinook Salmon						
Pump Installation at the Red Bluff Pumping Plant	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Fish-1c and Fish-1d	Less than Significant
American River Operation	Potentially Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
All Other Operation	No Substantial Adverse Effect	Less than Significant/ Potentially Beneficial Effect	Less than Significant/ Potentially Beneficial Effect	Less than Significant/ Potentially Beneficial Effect	None	N/A
Central Valley Late Fall-Run Chinook Salmon; Hardhead						
Pump Installation at the Red Bluff Pumping Plant	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Fish-1c and Fish-1d	Less than Significant
Operation	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
White Sturgeon						
Pump Installation at the Red Bluff Pumping Plant	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Fish-1c and Fish-1d	Less than Significant
Yolo Bypass Operation	No Substantial Adverse Effect	Potentially Significant	Potentially Significant	Potentially Significant	Fish-1b: Prepare and Implement a Mitigation Monitoring and Reporting Plan	Less than Significant
All Other Operation	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Central Valley Steelhead						
Pump Installation at the Red Bluff Pumping Plant	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Fish-1c and Fish-1d	Less than Significant
American River Operation	Potentially Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Yolo Bypass Operation	No Substantial Adverse Effect	Potentially Significant	Potentially Significant	Potentially Significant	Fish-1b	Less than Significant
All Other Operation	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Pacific Lamprey; River Lamprey						
Pump Installation at the Red Bluff Pumping Plant	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Fish-1c and Fish-1d	Less than Significant
American River Operation	Potentially Substantial Adverse Effect	Potentially Beneficial Effect	Potentially Beneficial Effect	Potentially Beneficial Effect	None	N/A
All Other Operation	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Striped Bass; American Shad						
Pump Installation at the Red Bluff Pumping Plant	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Fish-1c and Fish-1d	Less than Significant
American River Operation	Potentially Substantial Adverse Effect	Potentially Beneficial	Potentially Beneficial	Potentially Beneficial	None	N/A
All Other Operation	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Sacramento-San Joaquin Roach						
Pump Installation at the Red Bluff Pumping Plant	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Fish-1c and Fish-1d	Less than Significant
Operation	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A

Table ES-3
Summary of Environmental Effects by Resource

Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Green Sturgeon; Sacramento Splittail						
Pump Installation at the Red Bluff Pumping Plant	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Fish-1c and Fish-1d	Less than Significant
American River Operation	Potentially Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Yolo Bypass Operation	No Substantial Adverse Effect	Potentially Significant	Potentially Significant	Potentially Significant	Fish-1b	Less than Significant
All Other Operation	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Largemouth Bass						
Pump Installation at the Red Bluff Pumping Plant	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Fish-1c and Fish-1d	Less than Significant
Yolo Bypass Operation	No Substantial Adverse Effect	Potentially Significant	Potentially Significant	Potentially Significant	Fish-1b	Less than Significant
All Other Operation	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area, Sites Reservoir Dams	N/A				None	N/A
Erosion, Sedimentation and Turbidity	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Fish-1c	Less than Significant
Hazardous Materials and Chemical Spills	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Fish-1c and Fish-1d	Less than Significant
Hydrostatic Pressure Waves, Noise and Vibration; Direct Harm	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Water Surface Elevation Fluctuations	N/A	No Impact	No Impact	No Impact	None	N/A
Aquatic Habitat Modification	N/A	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Fish-1e: Implement Habitat Restoration Actions	Less than Significant
Road Relocations and South Bridge	N/A				None	N/A
Erosion, Sedimentation and Turbidity	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Fish-1c	Less than Significant
Hazardous Materials and Chemical Spills	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Fish-1c and Fish-1d	Less than Significant
Hydrostatic Pressure Waves, Noise and Vibration; Direct Harm; Aquatic Habitat Modification; Fish Passage	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Sites Reservoir Inlet/Outlet Structure. Sites Pumping/Generating Plant	N/A				None	N/A
Erosion, Sedimentation and Turbidity	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Fish-1c	Less than Significant
Hazardous Materials and Chemical Spills	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Fish-1c and Fish-1d	Less than Significant
Hydrostatic Pressure Waves, Noise and Vibration; Direct Harm; Fish Passage	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Aquatic Habitat Modification	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Fish-1e	Less than Significant
Holthouse Reservoir Complex	N/A				None	N/A
Erosion, Sedimentation and Turbidity	N/A	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Fish-1c	Less than Significant
Hazardous Materials and Chemical Spills	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Fish-1c and 1d	Less than Significant
Hydrostatic Pressure Waves, Noise and Vibration; Direct Harm; Fish Passage	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Aquatic Habitat Modification	N/A	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Fish-1e	Less than Significant
GCID Canal Facilities Modifications	N/A				None	N/A
Erosion, Sedimentation and Turbidity	N/A	Potentially Significant	Potentially significant	Potentially significant	Fish-1c	Less than Significant
Hazardous Materials and Chemical Spills	N/A	Potentially Significant	Potentially significant	Potentially significant	Fish-1c and Fish-1d	Less than Significant

Table ES-3: Summary of Environmental Effects by Resource

Table ES-3 Summary of Environmental Effects by Resource						
Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
TRR to Funks Creek Pipeline	N/A				None	N/A
Erosion, Sedimentation and Turbidity	N/A	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Fish-1c	Less than Significant
Hazardous Materials and Chemical Spills	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Fish-1c and Fish-1d	Less than Significant
Direct Harm	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Delevan Pipeline	N/A				None	N/A
Erosion, Sedimentation and Turbidity	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Fish-1c	Less than Significant
Hazardous Materials and Chemical Spills	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Fish-1c and Fish-1d	Less than Significant
Direct Harm; Fish Passage	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Aquatic Habitat Modification	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Fish-1e	Less than Significant
Delevan Pipeline Intake Facilities	N/A		N/A		None	N/A
Erosion, Sedimentation and Turbidity	N/A	Less than Significant/ Potentially Significant	N/A	Less than Significant/ Potentially Significant	Fish-1c	Less than Significant
Hazardous Materials and Chemical Spills	N/A	Potentially Significant	N/A	Potentially Significant	Fish-1c and Fish-1d	Less than Significant
Direct Harm; Fish Passage	N/A	Less than Significant	N/A	Less than Significant	None	N/A
Hydrostatic Pressure Waves, Noise and Vibration	N/A	Less than Significant/ Potentially Significant	N/A	Less than Significant/ Potentially Significant	Fish-1f: Perform In-Water Pile Driving with a Vibratory Pile Driver July Through September During Daylight Hours.	Less than Significant
Predation Risk	N/A	Potentially Significant	N/A	Potentially Significant	Fish-1g: Design Fish Screen in Compliance with NMFS and CDFG Criteria	Less than Significant
Aquatic Habitat Modification	N/A	Less than Significant/ Potentially Significant	N/A	Less than Significant/ Potentially Significant	Fish-1e	Less than Significant
Stranding, Impingement and Entrainment	N/A	Less than Significant/ Potentially Significant	N/A	Less than Significant/ Potentially Significant	Fish-1h: Prepare and Implement a Fish Salvage and Rescue Plan	Less than Significant
Temperature Effects on the Sacramento River	N/A	Less than Significant	N/A	Less than Significant	None	N/A
Delevan Pipeline Discharge Facility	N/A	N/A		N/A	None	N/A
Hydrostatic Pressure Waves, Noise and Vibration	N/A	N/A	Less than Significant/ Potentially Significant	N/A	Fish-1f	Less than Significant
Predation Risk	N/A	N/A	Potentially Significant	N/A	Fish-1g	Less than Significant
Aquatic Habitat Modification	N/A	N/A	Less than Significant/ Potentially Significant	N/A	Fish-1e	Less than Significant
Temperature Effects on the Sacramento River	N/A	N/A	Less than Significant	N/A	None	N/A
13. Botanical Resources						
Impact Bot-1: A Substantial Adverse Effect, Including Conversion to Non-Native Vegetation, on any Riparian Habitat or Other Sensitive Natural Community Identified in Local or Regional Plans, Policies, Regulations, or by DFG or USFWS, or any Native Plant Community Known to be Rare, Unusual, or Becoming Uncommon in the Biogeographic Region of the Project.						
Extended Study Area						
Wildlife Refuge Water Use	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
San Luis Reservoir	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Secondary Study Area					None	N/A
Trinity Lake, Shasta Lake, Lake Oroville; Folsom Lake	No Substantial Adverse Effect	Beneficial	Beneficial	Beneficial	None	N/A
Trinity River, Klamath River downstream of Trinity River, Spring Creek, Lewiston Lake, Whiskeytown Lake, Keswick Reservoir, Lake Natoma, Thermalito Complex	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A

Table ES-3
Summary of Environmental Effects by Resource

Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Sacramento River, Sacramento-San Joaquin Delta, Suisun Bay,	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Clear Creek, San Pablo Bay, San Francisco Bay	Potentially Beneficial	No Impact	No Impact	No Impact	None	N/A
Feather River and American River	Potentially Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Sutter Bypass and Yolo Bypass	No Substantial Adverse Effect	Potentially Beneficial	Potentially Beneficial	Potentially Beneficial	None	N/A
Primary Study Area	Potentially Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area, Sites Reservoir Dams	N/A				None	N/A
Annual Grassland Valley Edges; Salt Lake Wetlands	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Bot-1a: Implement Vegetation Community Mitigation Measures Recommended by USFWS	Less than Significant
Riparian Vegetation	N/A	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Bot-1a	Less than Significant
Valley Floor; Other Land Cover	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Blue Oak Woodland; Valley Oak Woodland	N/A	Significant	Significant	Significant	Bot-1a	Less than Significant
Recreation Areas	N/A					
Annual Grassland	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Bot-1a	Less than Significant
Blue Oak Woodland	N/A	Significant	Significant	Significant	Bot-1a	Less than Significant
					Bot-1c: Avoid/Minimize Loss or Disturbance of Vegetation by Refining the Siting of Facilities and Implementing BMPs	Less than Significant
Chamise; Other Land Cover	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Road Relocations and South Bridge	N/A				None	N/A
Annual Grassland	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Bot-1a	Less than Significant
Blue Oak Woodland; Riparian Vegetation	N/A	Significant	Significant	Significant	Bot-1a	Less than Significant
					Bot-1c	Less than Significant
Chamise; Mixed Chaparral; Other Land Cover	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Sites Pumping/ Generating Plant, Sites Electrical Switchyard, Sites Reservoir Inlet/Outlet Structure, and Field Office Maintenance Yard	N/A				None	N/A
Annual Grassland; Riparian Vegetation; Other Land Cover	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A

Table ES-3: Summary of Environmental Effects by Resource

Table ES-3 Summary of Environmental Effects by Resource						
Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Holthouse Reservoir Complex	N/A				None	N/A
Annual Grassland	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Bot-1a	Less than Significant
					Bot-1b: Conduct Watershed Hydrological Studies	Less than Significant
Alkaline Wetland	N/A	Significant/ Potentially Significant	Significant/ Potentially Significant	Significant/ Potentially Significant	Bot-1a	Less than Significant or Potentially Significant and Unavoidable
					Bot-1d: Conduct Groundwater Hydrological Studies	Less than Significant or Potentially Significant and Unavoidable
					Bot-1e: Minimize Impacts by Siting Facilities Away from Drainage Swales and Implementing BMPs	Less than Significant or Potentially Significant and Unavoidable
Riparian Veg	N/A	Significant	Significant	Significant	Bot-1a	Less than Significant
Other Land Cover	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Holthouse Reservoir Electrical Switchyard	N/A				None	N/A
Annual Grassland	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Alkaline Wetland	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Riparian Veg	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Other Land Cover	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
GCID Canal Facilities Modifications	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
TRR, TRR Pimping/Generating Plant, TRR Electrical Switchyard, GCID Canal Connection to the TRR	N/A	No Impact	No Impact	No Impact	None	N/A
Delevan Pipeline	N/A				None	N/A
Alkaline Wetland; Other Land Cover	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Freshwater Emergent Marsh	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Bot-1f: Implement BMPs to Avoid Disturbance of Marsh Vegetation in Adjacent Delevan National Wildlife Refuge	Less than Significant
TRR Pipeline, TRR Pipeline Road, and Delevan Pipeline Electrical Switchyard	N/A				None	N/A
Alkaline Wetland; Other Land Cover	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Freshwater Emergent Marsh	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Delevan Transmission Line	N/A				None	N/A
Annual Grassland	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Riparian Veg	N/A	Significant Impact	Significant Impact	Significant Impact	Bot-1a	Less than Significant
					Bot-1c	Less than Significant
Other Land Cover	N/A	No Impact	No Impact	No Impact	None	N/A
Delevan Pipeline Intake/Discharge Facilities	N/A				None	N/A
Riparian Scrub	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Fremont Cottonwood Forest	N/A	Significant	Significant	Significant	Bot-1a	Less than Significant
Other Land Cover	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A

Table ES-3
Summary of Environmental Effects by Resource

Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Project Buffer	N/A				None	N/A
Annual Grassland, Blue Oak Woodland, Canal, Chamise, Ponds and Valley-Foothill Riparian	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Bot-1a	Less than Significant
					Bot-1b	Less than Significant
					Bot-1c	Less than Significant
Agriculture; Urban/Disturbed Land	N/A	Beneficial	Beneficial	Beneficial	None	N/A
Impact Bot-2: A Substantial Adverse Effect, Either Directly or Through Habitat Modifications, on any Species Identified as a Candidate, Sensitive, or Special-Status Species in Local or Regional Plans, Policies, or Regulations, or by DFG or USFWS.						
Extended Study Area						
Wildlife Refuge Water Use, San Luis Reservoir	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Secondary Study Area					None	N/A
Trinity Lake, Shasta Lake, Lake Oroville, Folsom Lake	No Substantial Adverse Effect	Beneficial	Beneficial	Beneficial	None	N/A
Trinity River, Klamath River downstream of Trinity River, Spring Creek, Clear Creek, Lewiston Lake, Whiskeytown Lake, Keswick Reservoir, Lake Natoma; Thermalito Complex, San Pablo Bay, San Francisco Bay	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Sacramento River, Feather River, Sacramento-San Joaquin Delta, Suisun Bay	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Sutter Bypass; Yolo Bypass	No Substantial Adverse Effect	Potentially Beneficial	Potentially Beneficial	Potentially Beneficial	None	N/A
American River	Potentially Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Primary Study Area	Potentially Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area, Sites Reservoir Dams	N/A				None	N/A
CNPS List 1B and State- or federally listed species	N/A	Significant	Significant	Significant	Bot-2a: Conduct Pre-Construction Surveys for Sidalcea keckii and Amsinckia lunaris; if Found, Compensate According to USFWS Guidelines	Significant and Unavoidable
CNPS List 4 species	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Bot-2e: Compensate for Loss or Disturbance of CNPS List 4 Species According to CDFG Guidelines	Less than Significant or Potentially Significant and Unavoidable?
Recreation Areas	N/A				None	N/A
CNPS List 1B and State- or federally listed species	N/A	No Impact/ Potentially Significant	No Impact/ Potentially Significant	No Impact/ Potentially Significant	Bot-2a	Less than Significant
CNPS List 4 species	N/A	No Impact	No Impact	No Impact	None	N/A
Road Relocations and South Bridge	N/A				None	N/A
CNPS List 1B and State- or federally listed species	N/A	No Impact/ Significant	No Impact/ Significant	No Impact/ Significant	Bot-2a	Less than Significant
CNPS List 4 species	N/A	No Impact/ Potentially Significant	No Impact/ Potentially Significant	No Impact/ Potentially Significant	Bot-1c	Less than Significant
					Bot-2e	Less than Significant
Sites Pumping/ Generating Plant; Sites Electrical Switchyard; Sites Reservoir Inlet/Outlet Structure; Field Office Maintenance Yard; GCID Canal Facilities Modifications; TRR, TRR Pumping/Generating Plant, TRR Electrical Switchyard, GCID Canal Connection to TRR	N/A	No Impact	No Impact	No Impact	None	N/A
Holthouse Reservoir Complex	N/A	No Impact/ Potentially Significant	No Impact/ Potentially Significant	No Impact/ Potentially Significant	Bot-1d:	Potentially Significant and Unavoidable
Holthouse Reservoir Electrical Switchyard	N/A	No Impact	No Impact	No Impact	None	N/A

Table ES-3: Summary of Environmental Effects by Resource

Table ES-3 Summary of Environmental Effects by Resource						
Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Delevan Pipeline	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Bot-2c: Conduct Pre-Construction Surveys for Rare Alkaline Wetland Species	Less than Significant
					Bot-2d: Conduct Pre-Construction Surveys for Special-Status Plant Species	Less than Significant
TRR Pipeline, TRR Pipeline Road, Delevan Pipeline Electrical Switchyard	N/A	No Impact	No Impact	No Impact	None	N/A
Delevan Transmission Line	N/A	No Impact/ Less than Significant/ Potentially Significant	Less than Significant	Same as Alt. B	Bot-2d	Less than Significant
					Bot-1c	Less than Significant
					Bot-2e	Less than Significant
Delevan Pipeline Intake/Discharge Facilities	N/A	No Impact	No Impact	No Impact	None	N/A
Project Buffer	N/A	Potentially Significant	Same as Alt. A	Same as Alt. A	Bot-2b	Less than Significant
Impact Bot-3: An Increase in Potential for the Invasion or Spread of Noxious Weed Species.						
Extended Study Area						
Wildlife Refuge Water Use	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
San Luis Reservoir	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Secondary Study Area						
Trinity Lake, Shasta Lake, Lake Oroville, Folsom Lake	No Substantial Adverse Effect	Beneficial	Beneficial	Beneficial	None	N/A
Trinity River, Klamath downstream of Trinity River, Spring Creek, Lewiston Lake; Whiskeytown Lake, Keswick Reservoir; Lake Natoma; Thermalito Complex, San Pablo Bay, San Francisco Bay	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Sacramento River, Sacramento-San Joaquin Delta, Suisun Bay	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Clear Creek	Potentially Beneficial	No Impact	No Impact	No Impact	None	N/A
Feather River; American River	Potentially Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Sutter Bypass; Yolo Bypass	No Substantial Adverse Effect	Potentially Beneficial	Potentially Beneficial	Potentially Beneficial	None	N/A
Primary Study Area	Potentially Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area, Sites Reservoir Dams; Recreation Areas; Delevan Pipeline Intake/Discharge Facilities	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Bot-3a: Implement Preventive Actions by Following Weed Control BMPs; Minimize Exposed Ground; Reduce Weed Seed by Removal of On-Site and Off-Site weeds	Less than Significant
Road Relocations and South Bridge	N/A	Significant	Significant	Significant	Bot-3a	Less than Significant
Sites Pumping/ Generating Plant; Sites Electrical Switchyard; Sites Reservoir Inlet/Outlet Structure; Field Office Maintenance Yard	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Bot-3a	Less than Significant
Holthouse Reservoir Complex and Holthouse Reservoir Electrical Switchyard; Delevan Pipeline Electrical Switchyard, TRR Pipeline, TRR Pipeline Road, Project Buffer	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Bot-3a	Less than Significant
Delevan Transmission Line, Delevan Pipeline	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Bot-3a	Less than Significant
					Bot-3b: Implement Avoidance Measures in Areas Adjacent to the Delevan National Wildlife Refuge	Less than Significant
GCID Canal Facilities Modifications; TRR, TRR Pumping/Generating Plant, TRR Electrical Switchyard, GCID Canal Connection to the TRR	N/A	No Impact	No Impact	No Impact	None	N/A

Table ES-3
Summary of Environmental Effects by Resource

Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Impact Bot-4: Indirect Impacts to Native Plants from Human Disturbance.						
Extended Study Area						
Wildlife Refuge Water Use, San Luis Reservoir	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Secondary Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area, Sites Reservoir Dams; Sites Pumping/ Generating Plant; Sites Electrical Switchyard; Sites Reservoir Inlet/Outlet Structure; Field Office Maintenance Yard; Delevan Transmission Line; Delevan Pipeline Intake/Discharge Facilities	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Recreation Areas; Road Relocations and South Bridge; Holthouse Reservoir Complex Delevan Pipeline, Project Buffer	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Bot-1c	Less than Significant
					Bot-4: Implement Vegetation Monitoring in Coordination with USFWS	Less than Significant
GCID Canal Facilities Modifications; Holthouse Reservoir Electrical Switchyard, TRR, TRR Pumping/Generating Plant, TRR Electrical Switchyard, GCID Canal Connection to TRR, TRR Pipeline, TRR Pipeline Road, Delevan Pipeline Electrical Switchyard	N/A	No Impact	No Impact	No Impact	None	N/A
Impact Bot-5: Conflict with the Provisions of an Adopted Habitat Conservation Plan, Natural Community Conservation Plan, or Other Approved Local or Regional Habitat Conservation Plan, or Conflict with any Local Policies or Ordinances Protecting Biological Resources, such as a Tree Preservation Policy or Ordinance.						
Extended Study Area						
Wildlife Refuge Water Use, San Luis Reservoir	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Secondary Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
14. Terrestrial Biological Resources						
Impact Wild-1: A substantial adverse effect, including alteration of habitat suitability, on any wildlife habitat, especially riparian habitat or other sensitive natural communities identified in local or regional plans, policies, regulations, or by DFG or USFWS.						
Extended Study Area						
Agricultural, Municipal, and Industrial Water Use; San Luis Reservoir	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Wildlife Refuge Water Use	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Secondary Study Area						
Trinity Lake, Shasta Lake, Lake Oroville, Folsom Lake	No Substantial Adverse Effect	Beneficial	Beneficial	Beneficial	None	N/A
Lewiston Lake, Whiskeytown Lake, Keswick Reservoir, Lake Natoma, and the Thermalito Complex; Klamath River downstream of the Trinity River, Spring Creek, Clear Creek, San Pablo Bay, San Francisco Bay	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Trinity River, Sacramento River, Sutter Bypass, Yolo Bypass, Sacramento-San Joaquin Delta; Suisun Bay	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Pump Installation at the Red Bluff Pumping Plant	N/A	No Impact/ Less than Significant	No Impact/ Less than Significant	No Impact/ Less than Significant	None	N/A
Feather River; American River	Potentially Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A

Table ES-3: Summary of Environmental Effects by Resource

Table ES-3 Summary of Environmental Effects by Resource						
Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Primary Study Area	No Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area, Sites Reservoir Dams	N/A				None	N/A
Annual Grassland, Blue Oak Woodland, Dryland Grain and Seed Crops, Pasture, Valley Foothill Riparian	N/A	Significant	Significant	Significant	Wild-1a: Implement a Combination of Habitat Protection, Enhancement, Restoration, or Conservation Easement Measures, in Consultation with USFWS	Less than Significant
Lacustrine	N/A	Potentially Beneficial/ Less than Significant	Potentially Beneficial/ Less than Significant	Potentially Beneficial/ Less than Significant	None	N/A
Urban/Disturbed	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Wild-1b: Implement Bat Exclusion Measures Prior to Demolition of Existing Structures	Less than Significant
Valley Oak Woodland Habitat	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Wild-1a	Less than Significant
Recreation Areas	N/A				None	N/A
Annual Grassland; Blue Oak Woodland	N/A	Significant	Significant	Significant	Wild-1a	Less than Significant
Chamise-Redshank Chaparral; Lacustrine	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Road Relocations and South Bridge	N/A				None	N/A
Annual Grassland; Blue Oak Woodland; Chamise-Redshank Chaparral; Dryland Grain and Seed Crops; Mixed Chaparral ; Valley Foothill Riparian	N/A	Significant	Significant	Significant	Wild-1a	Less than Significant
Canal	N/A	No Impact	No Impact	No Impact	None	N/A
Lacustrine	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Urban/Disturbed	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Wild-1b	Less than Significant
Sites Pumping/Generating Plant, Sites Electrical Switchyard, Sites Reservoir Inlet/Outlet Structure, Field Office Maintenance Yard	N/A				None	N/A
Annual Grassland; Valley Foothill Riparian	N/A	Significant	Significant	Significant	Wild-1a	Less than Significant
Lacustrine	N/A	Less than Significant	Less than Significant	Less than Significant		
Urban/Disturbed	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Wild-1b	Less than Significant
Tunnel	N/A	No Impact	No Impact	No Impact	None	N/A
Holthouse Reservoir Complex, Holthouse Reservoir Electrical Switchyard	N/A				None	N/A
Annual Grassland; Dryland Grain and Seed Crops; Irrigated Row and Field Crops; Valley Foothill Riparian	N/A	Significant	Significant	Significant	Wild-1a	Less than Significant
Fresh Emergent Wetland	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Wild-1a	Less than Significant
Canal; Lacustrine; Urban/Disturbed	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
GCID Canal Facilities Modifications	N/A				None	N/A
Canal; Urban/Disturbed	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
TRR, TRR Pumping/Generating Plant, TRR Electrical Switchyard, GCID Canal Connection to the TRR	N/A				None	N/A
Canal	N/A	No Impact	No Impact	No Impact	None	N/A
Urban/Disturbed, Deciduous Orchard	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Dryland Grain and Seed Crops; Pasture; Rice	N/A	Significant	Significant	Significant	Wild-1a	Less than Significant

Table ES-3
Summary of Environmental Effects by Resource

Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Delevan Pipeline, TRR Pipeline, TRR Pipeline Road, Delevan Pipeline Electrical Switchyard	N/A				None	N/A
Barren, Lacustrine	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Wild-1a	Less than Significant
Canal	N/A	No Impact/ Less than Significant	No Impact/ Less than Significant	No Impact/ Less than Significant	None	N/A
Deciduous Orchard; Dryland Grain and Seed Crops; Eucalyptus; Fresh Emergent Wetland; Irrigated Row and Field Crops; Pasture; Rice	N/A	Significant	Significant	Significant	Wild-1a	Less than Significant
Urban/Disturbed	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Delevan Transmission Line	N/A				None	N/A
Annual Grassland; Dryland Grain and Seed Crops; Valley Foothill Riparian	N/A	Significant	Significant	Significant	Wild-1a	Less than Significant
Barren	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Wild-1a	Less than Significant
Canal	N/A	No Impact	No Impact	No Impact	None	N/A
Delevan Pipeline Intake Facilities	N/A		N/A		None	N/A
Canal	N/A	Less than Significant	N/A	Less than Significant	None	N/A
Deciduous Orchard; Valley Foothill Riparian	N/A	Significant	N/A	Significant	Wild-1a	Less than Significant
Riverine;	N/A	Potentially Significant	N/A	Potentially Significant	Wild-1a	Less than Significant
Urban/Disturbed	N/A	Potentially Significant	N/A	Potentially Significant	Wild-1b	Less than Significant
Project Buffer	N/A				None	N/A
Annual Grassland, Barren, Blue Oak Woodland, Canal, Chamise-Redshank Chaparral, Lacustrine, Valley Foothill Riparian; Deciduous Orchard, Dryland Grain and Seed Crops, Irrigated Row and Field Crops, Pasture, Rice;	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Wild-1a	Less than Significant
Urban/Disturbed	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Wild-1b	Less than Significant
Delevan Pipeline Discharge Facility	N/A	N/A		N/A	None	N/A
Canal; Urban/Disturbed	N/A	N/A	Less than Significant	N/A	None	N/A
Deciduous Orchard; Valley Foothill Riparian	N/A	N/A	Significant	N/A	Wild-1a	Less than Significant
Riverine	N/A	N/A	Potentially Significant	N/A	Wild-1a	Less than Significant
Impact Wild-2: A substantial adverse effect, including mortality, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by DFG or USFWS.						
Extended Study Area						
Agricultural, Municipal, and Industrial Water Use, San Luis Reservoir	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Wildlife Refuge Water Use	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Secondary Study Area						
Trinity Lake, Shasta Lake, Lake Oroville, Folsom Lake	No Substantial Adverse Effect	Beneficial	Beneficial	Beneficial	None	N/A
Klamath River downstream of the Trinity River, Lewiston Lake, Whiskeytown Lake, Keswick Reservoir, Spring Creek, Clear Creek, Lake Natoma, Thermalito Complex, San Pablo Bay, San Francisco Bay	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Trinity River; Sacramento River, Yolo Bypass, Sacramento-San Joaquin Delta, Suisun Bay	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Pump Installation at the Red Bluff Pumping Plant	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Feather River; American River	Potentially Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Sutter Bypass	No Substantial Adverse Effect	Potentially Beneficial	Potentially Beneficial	Potentially Beneficial	None	N/A

Table ES-3: Summary of Environmental Effects by Resource

Table ES-3 Summary of Environmental Effects by Resource						
Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Primary Study Area	No Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area, Sites Reservoir Dams	N/A				None	N/A
Bald Eagle	N/A	Less than Significant/ Potentially Significant/ Significant	Less than Significant/ Significant Impact	Less than Significant/ Potentially Significant/ Significant	Wild-2a: Obtain Permit for Bald Eagle Nest Tree Removal, Remove Nest Tree Outside of Breeding Season, and Create Habitat.	Less than Significant
Golden Eagle	N/A	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Wild-2d: Implement Avoidance and Minimization Measures at Historic or Active Golden Eagle Nest Sites. Conduct Satellite Telemetry Studies Pre- and Post-Construction to Determine Territory Size. Prepare a Golden Eagle Protection Plan and a Golden Eagle Monitoring Plan. Mitigate for Loss of Annual Grassland Foraging Habitat.	Significant and Unavoidable
Valley Elderberry Longhorn Beetle	N/A	Significant	Significant	Significant	Wild-2f: Implement Protective Actions to Avoid or Minimize Impacts to Elderberry Plants. Where Avoidance is not Possible, Transplant or Replace Plants, According to USFWS Guidelines.	Less than Significant
Western Burrowing Owl	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Wild-2g: Conduct Preconstruction Surveys for Western Burrowing Owls. If Owls are Found, Implement Protective Actions.	Less than Significant
Western Pond Turtle	N/A	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Wild 2h: Conduct Preconstruction Surveys and Provide a Biological Monitor During Construction for the Western Pond Turtle. If Found, Turtles shall be Captured and Relocated by a Qualified Biologist.	Less than Significant
Recreation Areas	N/A				None	N/A
Golden Eagle	N/A	Significant	Significant	Significant	Wild-2d	Significant and Unavoidable
Road Relocations and South Bridge	N/A				None	N/A
Valley Elderberry Longhorn Beetle	N/A	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Wild-2f.	Less than Significant
Western Burrowing Owl	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Wild-2g	Less than Significant
Sites Pumping/Generating Plant, Sites Electrical Switchyard, Sites Reservoir Inlet/Outlet Structure, Field Office Maintenance Yard; Holthouse Reservoir Electrical Switchyard, TRR, TRR Pumping/Generation Plant, TRR Electrical Switchyard, TRR Pipeline Road, GCID Canal Connection to the TRR, Delevan Pipeline Electrical Switchyard, Delevan Transmission Line	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Tunnel	N/A	No Impact	No Impact	No Impact	None	N/A
Holthouse Reservoir Complex	N/A				None	N/A
Water-Dependent Bird Species	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Western Pond Turtle	N/A	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Wild-2h	Less than Significant
GCID Canal Facilities Modifications	N/A				None	N/A
Giant Garter Snake	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Wild-2c: Conduct Preconstruction Surveys for Giant Garter Snakes and Implement Protective Actions. Conduct Construction Activity Between May 1 and October 1 in Giant Garter Snake Habitat. Compensate for Temporary Disturbance of Habitat According to USFWS Guidelines.	Less than Significant

Table ES-3
Summary of Environmental Effects by Resource

Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Delevan Pipeline, TRR Pipeline	N/A				None	N/A
Bank Swallow	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Wild-2b: Implement Protective Actions to Prevent Bank Swallows from Nesting in the Cut Banks of Construction Trenches.	Less than Significant
Giant Garter Snake	N/A	Significant	Significant	Significant	Wild-2c	Less than Significant
Western Pond Turtle	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Wild-2h	Less than Significant
Western Yellow-Billed Cuckoo	N/A	No Impact	No Impact	No Impact	None	N/A
Delevan Pipeline Intake Facilities	N/A		N/A		None	N/A
Bank Swallow	N/A	No Impact	N/A	No Impact	None	N/A
Ringtail	N/A	Potentially Significant	N/A	Potentially Significant	Wild-2e: Implement Protective Actions to Minimize Impacts to the Ringtail, and Restore Connectivity of Riparian Corridor.	Less than Significant
Valley Elderberry Longhorn Beetle	N/A	Significant	N/A	Significant	Wild-2f	Less than Significant
Western Yellow-Billed Cuckoo	N/A	Less than Significant/ Potentially Significant	N/A	Less than Significant/ Potentially Significant	Wild-2i: Conduct Preconstruction Surveys for the Western Yellow-Billed Cuckoo and Schedule Construction Activities to Avoid Impacts to Nest Sites.	Less than Significant
Project Buffer	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Wild-1b	Less than Significant
Delevan Pipeline Discharge Facility	N/A	N/A		N/A	None	N/A
Bank Swallow	N/A	N/A	No Impact	N/A	None	N/A
Ringtail	N/A	N/A	Potentially Significant	N/A	Wild-2e	Less than Significant
Valley Elderberry Longhorn Beetle	N/A	N/A	Significant	N/A	Wild-2f	Less than Significant
Western Yellow-Billed Cuckoo	N/A	N/A	Less than Significant/ Potentially Significant	N/A	Wild-2i	Less than Significant
Impact Wild-3: Substantial interference with the movement of any native resident or migratory wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.						
Extended Study Area						
Agricultural, Municipal, and Industrial Water Use, San Luis Reservoir	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Wildlife Refuge Water Use	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Secondary Study Area						
Trinity Lake, Shasta Lake, Lake Oroville, Folsom Lake	No Substantial Adverse Effect	Beneficial	Beneficial	Beneficial	None	N/A
Klamath River downstream of the Trinity River, Lewiston Lake, Whiskeytown Lake, Keswick Reservoir, Spring Creek, Lake Natoma, Thermalito Complex; Clear Creek; San Pablo Bay, San Francisco Bay, Suisun Bay	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Trinity River, Sacramento River; Sutter Bypass, Yolo Bypass, Sacramento-San Joaquin Delta	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Pump Installation at the Red Bluff Pumping Plant	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Feather River, American River	Potentially Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area, Sites Reservoir Dams	N/A				None	N/A
Resident Deer Herd	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A

Table ES-3: Summary of Environmental Effects by Resource

Table ES-3 Summary of Environmental Effects by Resource						
Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Recreation Areas	N/A				None	N/A
Golden Eagle	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Small Mammals, Reptiles, and Amphibians	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Road Relocations and South Bridge	N/A				None	N/A
Western Burrowing Owl	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Small Mammals, Reptiles, and Amphibians	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Sites Pumping/Generating Plant, Sites Electrical Switchyard, Sites Reservoir Inlet/Outlet Structure, Field Office Maintenance Yard	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Tunnel	N/A	No Impact	No Impact	No Impact	None	N/A
Holthouse Reservoir Complex	N/A		Same as Alt. A	Same as Alt. A		
Small Mammals, Reptiles, and Amphibians	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Western Grebes	N/A	Less than Significant/ Beneficial	Less than Significant/ Beneficial	Less than Significant/ Beneficial	None	N/A
Holthouse Reservoir Electrical Switchyard, GCID Canal Facilities Modifications; TRR, TRR Pumping/Generating Plant, TRR Electrical Switchyard, GCID Canal Connection to the TRR, TRR Pipeline Road, Delevan Pipeline Electrical Switchyard	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Delevan Pipeline, TRR Pipeline	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Wild-3a: During Construction, Backfill Trenches within 72 hours of Pipeline Installation and Provide an Escape Ramp for Trapped Wildlife	Less than Significant
Delevan Transmission Line	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Wild-3b: Construct Transmission Lines and Associated Equipment Following Suggested Practices for Avian Protection on Power Lines	Less than Significant
Delevan Pipeline Intake Facilities	N/A	Potentially Significant	N/A	Potentially Significant	Wild-3c: Restore Riparian Habitat Connectivity	Less than Significant
Project Buffer	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Delevan Pipeline Discharge Facilities	N/A	N/A	Potentially Significant	N/A	Wild-3c	Less than Significant
Impact Wild-4: Indirect effects on common wildlife from human disturbance.						
Extended Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Secondary Study Area						
Trinity Lake, Shasta Lake; Lake Oroville, Folsom Lake; Lewiston Lake, Whiskeytown Lake, Keswick Reservoir, Lake Natoma, Thermalito Complex; Trinity River; Klamath River downstream of the Trinity River; Spring Creek; Sacramento River; Clear Creek; Feather River; Sutter Bypass; Yolo Bypass; American River; Sacramento-San Joaquin Delta; Suisun Bay; San Pablo Bay, San Francisco Bay	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Pump Installation at the Red Bluff Pumping Plant	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Primary Study Area	No Substantial Adverse Effect	Potentially Significant	Potentially Significant	Potentially Significant	Wild-4: Implement Avoidance and Minimization Measures	Less than Significant
Impact Wild-5: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local or regional habitat conservation plan, or conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.						
Extended Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Secondary Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A

Table ES-3
Summary of Environmental Effects by Resource

Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
15. Wetlands and Other Waters of the U.S.						
Impact Wet-1: A Permanent Change in the Use or Quality (Extent in Acres or Miles) of “Other Waters of the U.S.”, (Including, but not Limited to, Lakes, Rivers, Streams Tributary to Navigable Rivers, Natural Ponds, Canals, or Ditches) that are Determined by the USACE to be Jurisdictional, through Direct Removal, Filling, Obstruction, Hydrological Interruption, or other Means						
Extended Study Area						
Wildlife Refuge Water Use	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
San Luis Reservoir	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Secondary Study Area						
Trinity Lake, Shasta Lake, Lake Oroville, Folsom Lake, Lewiston Lake, Whiskeytown Lake, Keswick Reservoir, Thermalito Complex, Lake Natoma, Sacramento River, Spring Creek, Clear Creek, Sacramento-San Joaquin Delta, Suisun Bay	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Trinity River and Klamath River Downstream of the Trinity River; Feather River; Sutter Bypass	Potentially Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Pump Installation at the Red Bluff Pumping Plant	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Yolo Bypass; American River	Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
San Pablo Bay, San Francisco Bay	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
Canals	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Wet-1b: Reroute Canals to Ensure Continued Hydrological Connection, or Implement other Compensatory Mitigation Measures pursuant to USACE Determination	Less than Significant
Sites Reservoir Inundation Area, Sites Reservoir Dams	N/A				None	N/A
Streams	N/A	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Wet-1a: Implement Compensatory Mitigation Measures for Streams pursuant to USACE Determination within the Watershed in which the Impacts Occur	Less than Significant
Ponds	N/A	No Impact	No Impact	No Impact	None	N/A
Recreation Areas	N/A				None	N/A
Streams	N/A	Potentially Significant/ Less than Significant	Less than Significant	Potentially Significant/ Less than Significant	Wet-1a	Less than Significant
Ponds	N/A	No Impact	No Impact	No Impact	None	N/A
Road Relocations and South Bridge	N/A				None	N/A
Streams	N/A	Less than Significant/ Potentially Significant	Potentially Significant	Less than Significant/ Potentially Significant	Wet-1a	Less than Significant
Ponds	N/A	No Impact	No Impact	No Impact	None	N/A
Sites Pumping/Generating Plant, Sites Electrical Switchyard, Tunnel, Sites Reservoir Inlet/Outlet Structure, Field Maintenance Office	N/A				None	N/A
Streams	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Wet-1a	Less than Significant
Ponds	N/A	No Impact	No Impact	No Impact	None	N/A

Table ES-3: Summary of Environmental Effects by Resource

Table ES-3 Summary of Environmental Effects by Resource						
Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Holthouse Reservoir Complex	N/A				None	N/A
Streams	N/A	No Impact/ Potentially Significant	No Impact/ Potentially Significant	No Impact/ Potentially Significant	Wet-1a	Less than Significant
Ponds	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Wet-1c: Restore Ponds to Original Condition, or Implement Other Compensatory Mitigation Measures pursuant to USACE Determination within the Same Hydrologic Unit in which the Ponds Occur	Less than Significant
Holthouse Reservoir Electrical Switchyard	N/A	No Impact	No Impact	No Impact	None	N/A
TRR, TRR Pumping/Generating Plant, TRR Electrical Switchyard, GCID Canal Connection to the TRR	N/A				None	N/A
Streams	N/A	No Impact	No Impact	No Impact	None	N/A
Delevan Transmission Line	N/A				None	N/A
Streams	N/A	No Impact/ Less than Significant	Less than Significant	No Impact/ Less than Significant	None	N/A
Ponds	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
TRR Pipeline, TRR Pipeline Road, Delevan Pipeline Electrical Switchyard	N/A				None	N/A
Streams	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Ponds	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Delevan Pipeline	N/A				None	N/A
Streams	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Ponds	N/A	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Wet-1c	Less than Significant
Delevan Pipeline Intake Facilities	N/A				None	N/A
Streams	N/A	No Impact/ Less than Significant/ Potentially Significant	N/A	No Impact/ Less than Significant/ Potentially Significant	Mit Wet-1a	Less than Significant
Project Buffer	N/A	No Impact/Less than Significant/ Potentially Significant	No Impact/Less than Significant/ Potentially Significant	No Impact/Less than Significant/ Potentially Significant	SW Qual-1c(1): Implement Soil Stabilization and Sediment Control BMPs	Less than Significant
Delevan Pipeline Discharge Facilities	N/A	N/A		N/A	None	N/A
Streams	N/A	N/A	No Impact/ Less than Significant/ Potentially Significant	N/A	Wet-1a	Less than Significant
Impact Wet-2: A Permanent Adverse Effect to Federally Protected Wetlands (as Defined by Section 404 of the Clean Water Act [Including, but not Limited to, Marsh, Vernal Pool, Coastal]) through Direct Removal, Filling, Hydrological Interruption, Discharge of Pollutants, or Other Means						
Extended Study Area						
Wildlife Refuge Water Use, San Luis Reservoir	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Secondary Study Area						
Trinity River, Klamath River Downstream of the Trinity River, Trinity Lake, Shasta Lake, Lake Oroville, Folsom Lake, Lewiston Lake, Whiskeytown Lake, Keswick Reservoir, Feather River; Thermalito Complex, Lake Natoma, Sacramento River; Spring Creek; Clear Creek; Sacramento-San Joaquin Delta, Suisun Bay	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Sutter Bypass; Yolo Bypass; American River	Potentially Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
San Pablo Bay, San Francisco Bay	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A

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Summary of Environmental Effects by Resource

Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Primary Study Area	No Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area, Sites Reservoir Dams,	N/A				None	N/A
Seasonal Wetlands	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Wet-2a: Conserve, Enhance, Restore, or Create Seasonal Wetlands, or Implement other Compensatory Mitigation Measures pursuant to USACE Determination within the Watershed in which the Impacts Occur	Less than Significant
Alkaline Wetlands	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Wet-2b: Conserve, Enhance, Restore, or Create Alkaline Wetlands, or Implement other Compensatory Mitigation Measures pursuant to USACE Determination within the Watershed in which the Impacts Occur	Less than Significant
Vernal Pools	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Wet-2c: Conserve, Enhance, Restore, or Create Vernal Pools Equivalent to the Type of Vernal Pools Adversely Impacted, or Implement other Compensatory Mitigation Measures pursuant to USACE Determination	Less than Significant
Emergent Wetlands	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Wet-2d: Conserve, Enhance, Restore, or Create Emergent Wetlands, or Implement other Compensatory Mitigation Measures pursuant to USACE Determination within the Watershed in which the Impacts Occur	Less than Significant
Riparian Wetlands	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Wet-2e: Conserve, Enhance, Restore, or Create Comparable Riparian Wetlands in the Inner Coast Range Foothills, or Implement other Compensatory Mitigation Measures pursuant to USACE Determination	Less than Significant
Recreation Areas	N/A				None	N/A
Seasonal Wetlands	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Wet-2a	Less than Significant
Road Relocations and South Bridge	N/A				None	N/A
Seasonal Wetlands	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Alkaline Wetlands	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Vernal Pools	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Emergent Wetlands	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Sites Pumping/Generating Plant, Sites Electrical Switchyard, Tunnel, Sites Reservoir Inlet/Outlet Structure, Field Office Maintenance Yard, Holthouse Reservoir Electrical Switchyard, TRR, TRR Pumping/Generating Plant, TRR Electrical Switchyard, GCID Canal Connection to the TRR, TRR Pipeline, TRR Pipeline Road, Delevan Pipeline Electrical Switchyard	N/A	No Impact	No Impact	No Impact	None	N/A
Holthouse Reservoir Complex	N/A				None	N/A
Alkaline Wetlands	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Wet-2b	Less than Significant
Seasonal Wetlands	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Wet-2a	Less than Significant
Delevan Transmission Line	N/A				None	N/A
Alkaline Wetlands; Vernal Pools	N/A	Less than Significant	No Impact	Less than Significant	None	N/A
Delevan Pipeline	N/A				None	N/A
Alkaline Wetlands	N/A	Less than Significant/ Potentially Significant/ No Impact	Less than Significant/ Potentially Significant/ No Impact	Less than Significant/ Potentially Significant/ No Impact	Wet-2b	Less than Significant
Vernal Pools	N/A	Potentially Significant/ No Impact	Potentially Significant/ No Impact	Potentially Significant/ No Impact	Wet-2c	Less than Significant

Table ES-3: Summary of Environmental Effects by Resource

Table ES-3 Summary of Environmental Effects by Resource						
Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Delevan Pipeline Intake Facilities	N/A				None	N/A
Riparian Wetlands	N/A	Less than Significant	N/A	Less than Significant	None	N/A
Project Buffer	N/A	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	SW Qual-1c(1)	Less than Significant
Delevan Pipeline Discharge Facilities	N/A	N/A	Less than Significant	N/A	None	N/A
16. Geology, Minerals, Soils, and Paleontology						
Geology and Soils						
Impact Geo/Soils-1: Effects on a Geologic Unit or Soil Unit from Project Construction, Operation, and Maintenance						
Extended, Secondary and Primary Study Areas	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Impact Geo/Soils-2: Project Construction, Operation, and Maintenance Effects on Soil Erosion and Loss of Topsoil						
Extended and Secondary Study Areas	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area	N/A	Potentially Significant/ No Impact	Potentially Significant	Potentially Significant	Geo/Soils-2: Implement a Project Erosion and Sediment Control Plan, and Stormwater Pollution Prevention Plan, during Project Construction, Operation, and Maintenance	Less than Significant
Sites Reservoir Dams	N/A	Potentially Significant/ Less than Significant	Potentially Significant	Potentially Significant	Geo/Soils-2	Less than Significant
Recreation Areas	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Geo/Soils-2	Less than Significant
Road Relocations and South Bridge	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Geo/Soils-2	Less than Significant
Sites Pumping/Generating Plant, Sites Electrical Switchyard, Tunnel, Sites Reservoir Inlet/Outlet Structure; Field Office Maintenance Yard; TRR, TRR Pumping/Generating Plant, TRR Electrical Switchyard, GCID Canal Connection to the TRR, GCID Canal Facilities Modifications, Delevan Transmission Line	N/A	Potentially Significant/ Less than Significant	Potentially Significant/ Less than Significant	Potentially Significant/ Less than Significant	Geo/Soils-2	Less than Significant
Holthouse Reservoir Complex, Holthouse Reservoir Electrical Switchyard, Project Buffer	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Geo/Soils-2	Less than Significant
Delevan Pipeline, TRR Pipeline, TRR Pipeline Road, Delevan Pipeline Electrical Switchyard	N/A	No Impact/ Less than Significant	No Impact/ Less than Significant	No Impact/ Less than Significant	None	N/A
Delevan Pipeline Intake Facilities	N/A	Potentially Significant/ No Impact	N/A	Potentially Significant/ No Impact	Geo/Soils-2	Less than Significant
Delevan Pipeline Discharge Facilities	N/A	N/A	Potentially Significant	N/A	None	N/A
Impact Geo/Soils-3: Risks to Life and Property from Project Construction, Operation, and Maintenance on Expansive Soil						
Extended and Secondary Study Areas	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area; Sites Dams	N/A	No Impact	No Impact	No Impact	None	N/A
Recreation Areas, Road Relocations and South Bridge, Sites Pumping/Generating Plant, Sites Electrical Switchyard, Tunnel, Sites Reservoir Inlet/Outlet Structure; Field Office Maintenance Yard; Holthouse Reservoir Complex; Holthouse Reservoir Electrical Switchyard, TRR, TRR Pumping/Generating Plant, TRR Electrical Switchyard, GCID Canal Connection to the TRR, GCID Canal Facilities Modifications, Delevan Transmission Line; Delevan Pipeline, TRR Pipeline, TRR Pipeline Road, Delevan Pipeline Electrical Switchyard	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Geo/Soils-3: Perform a Geotechnical Investigation due to Expansive Soils at Project Facility Sites	Less than Significant
Delevan Pipeline Intake Facilities	N/A	Less than Significant	N/A	Less than Significant	None	N/A
Project Buffer	N/A	No Impact	No Impact	No Impact	None	N/A
Delevan Pipeline Discharge Facilities	N/A	N/A	Less than Significant	N/A	None	N/A

Table ES-3
Summary of Environmental Effects by Resource

Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Impact Geo/Soils-4: Project Construction, Operation, and Maintenance Effects on Soils that are Incapable of Adequately Supporting the Use of Septic Tanks or Alternative Wastewater Disposal Systems where Sewers are not Available for the Wastewater Disposal						
Extended and Secondary Study Areas	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area; Sites Reservoir Dams; Recreation Areas; Road Relocations and South Bridge; Sites Pumping/Generating Plant, Sites Electrical Switchyard, Tunnel, Sites Reservoir Inlet/Outlet Structure Holthouse Reservoir Complex; Holthouse Reservoir Electrical Switchyard, TRR, TRR Pumping/Generating Plant, TRR Electrical Switchyard, GCID Canal Connection to the TRR, GCID Canal Facilities Modifications, Delevan Transmission Line; Delevan Pipeline TRR Pipeline; TRR Pipeline Road, Delevan Pipeline Electrical Switchyard, Delevan Pipeline Intake Facilities, Project Buffer	N/A	No Impact	No Impact	No Impact	None	N/A
Field Office Maintenance Yard	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Geo/Soils-4: Implement Avoidance Measures for Soils that are Incapable of Adequately Supporting the Use of Septic Tanks or Alternative Wastewater Disposal Systems where Sewers are not Available for the Wastewater Disposal	Less than Significant
Minerals						
Impact Min-1: Loss of Availability of a Known Mineral Resource that would be of Value to the Region and the Residents of the State						
Extended and Secondary Study Areas	No Substantial Adverse Effect				None	N/A
Construction	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Operation	N/A	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Impact Min-2: Loss of Availability of a Locally Important Mineral Resource Recovery Site Delineated on a Local General Plan, Specific Plan, or Other Land Use Plan						
Extended and Secondary Study Areas	No Substantial Adverse Effect	Less than Significant/ No Impact			None	N/A
Primary Study Area	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Impact Min-3: Expose People to Naturally Occurring Asbestos during Project Construction, Operation, or Maintenance						
Extended and Secondary Study Areas	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Paleontology						
Impact Paleo-1: Project Construction, Operation, and Maintenance Effects on Paleontological Resources						
Extended and Secondary Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A

Table ES-3: Summary of Environmental Effects by Resource

Table ES-3 Summary of Environmental Effects by Resource						
Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Primary Study Area	No Substantial Adverse Effect				None	N/A
Site Reservoir Inundation Area; Sites Reservoir Dams; Recreation Areas; Road Relocations and South Bridge; Sites Pumping/Generating Plant, Sites Electrical Switchyard, Tunnel, Sites Reservoir Inlet/Outlet Structure; Field Office Maintenance Yard; Holthouse Reservoir Complex; Holthouse Reservoir Electrical Switchyard, GCID Canal Facilities Modifications; GCID Canal Connection to the TRR; TRR, TRR Pumping/Generating Plant, TRR Electrical Switchyard, TRR Pipeline; TRR Pipeline Road, Delevan Pipeline Electrical Switchyard, Delevan Transmission Line; Delevan Pipeline	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Paleo-1a: Retain a Qualified Paleontological Resource Specialist Prior to the Start of Construction	Less than Significant
					Paleo-1b: Consultation with the Paleontological Resource Specialist Prior to and During Project Construction	
					Paleo-1c: Prepare and Implement a Paleontological Resources Monitoring and Mitigation Plan	
					Paleo-1d: Conduct Paleontological Resources Awareness Training	
					Paleo-1e: Conduct Monitoring During Project Construction and Prepare Monthly Reports	
					Paleo-1f: Ensure Implementation of the Paleontological Resources Monitoring and Mitigation Plan	
Delevan Pipeline Intake Facilities	N/A	Potentially Significant	N/A	Potentially Significant	Paleo-1a through Paleo-1f	Less than Significant
Delevan Pipeline Discharge Facility	N/A	N/A	Potentially Significant	N/A	Paleo-1a through Paleo-1f	Less than Significant
Project Buffer	N/A	No Impact	No Impact	No Impact	None	N/A
17. Faults and Seismicity						
Impact Seis-1: Exposure of People or Structures to Fault Rupture, Seismic Ground Shaking, Seismic-Related Ground Failure, Liquefaction, or Landslides						
Extended and Secondary Study Areas	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Seis-1: Implement Slope Stabilization Methods; Design Facilities to Withstand Fault Rupture, Seismic Ground Shaking, Ground Failure, and Liquefaction	Less than Significant
Impact Seis-2: Inundation by Seiches or Tsunamis						
Extended, Secondary, and Primary Study Areas	No Substantial Adverse Effect	No Impact/ Less than Significant	No Impact/ Less than Significant	No Impact/ Less than Significant	None	N/A
Impact Seis-3: Reservoir-Induced Seismicity						
Extended and Secondary Study Areas	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
18. Cultural Resources						
Impact Cul-1: A Substantial Adverse Change in the Significance of an Archaeological Resource Pursuant to §15064.5						
Extended Study Area						
Agricultural, Municipal, Industrial, and Wildlife Refuge Water Use	No Substantial Adverse Effect	Potentially Significant	Potentially Significant	Potentially Significant		
San Luis Reservoir	No Substantial Adverse Effect	Potentially Significant/No Impact	Potentially Significant/No Impact	Potentially Significant/No Impact	Cul-1e: Develop Agreement Documents to Address Potential Future Operational Impacts to Cultural Resources	Less than Significant or Significant and Unavoidable
Secondary Study Area	No Substantial Adverse Effect	No Impact/ Less than Significant	No Impact/ Less than Significant	No Impact/ Less than Significant	None	N/A

Table ES-3
Summary of Environmental Effects by Resource

Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Primary Study Area	No Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area, Sites Reservoir Dams	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Cul-1a: Avoid Impacts to Historical Resources/Historic Properties	No Impact
					Cul-1b: Conduct Archaeological Data Recovery	Less than Significant
					Cul-1c: Immediately Halt Construction if Cultural Resources are Discovered and Implement an Accidental Discovery Plan	Less than Significant
					Cul-1d: Protection of Archaeological Sites by Capping	Less than Significant
Recreation Areas	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Cul-1a through Cul-1d	No Impact/ Less than Significant
Road Relocations and South Bridge- construction	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Cul-1a through Cul-1d	No Impact/ Less than Significant
Road Relocations and South Bridge- operations	N/A	No Impact	No Impact	No Impact	None	N/A
Sites Pumping/Generating Plant, Sites Electrical Switchyard, Tunnel, Sites Reservoir Inlet/Outlet Structure, Field Maintenance Office	N/A				None	N/A
Construction	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Cul-1a through Cul-1d	No Impact/ Less than Significant
Operations	N/A	No Impact	No Impact	No Impact	None	N/A
Holthouse Reservoir Complex, Holthouse Electrical Switchyard	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Cul-1a through Cul-1d	No Impact/ Less than Significant
GCID Canal Facilities Modifications	N/A		Same as Alt. A	Same as Alt. A	None	N/A
Construction	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Cul-1a through Cul-1d	No Impact/ Less than Significant
Operations	N/A	No Impact	No Impact	No Impact	None	N/A
TRR, TRR Pumping/Generating Plant, TRR Electrical Switchyard, GCID Canal Connection to the TRR, Delevan Transmission Line, Delevan Pipeline, TRR Pipeline, TRR Pipeline Road, Delevan Pipeline Electrical Switchyard, Delevan Pipeline Intake Facilities	N/A				None	N/A
Construction	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Cul-1a through Cul-1d	No Impact/ Less than Significant
Operations	N/A	No Impact	No Impact	No Impact	None	N/A
Project Buffer	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Cul-1a through Cul-1d	No Impact/ Less than Significant
Delevan Pipeline Discharge Facility	N/A	N/A	Potentially Significant	N/A	Cul-1a through Cul-1d	No Impact/ Less than Significant
Impact Cul-2: A Substantial Adverse Change in the Significance of a Historical Resource of the Built Environment as Defined in §15064.5						
Extended and Secondary Study Areas	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A

Table ES-3: Summary of Environmental Effects by Resource

Table ES-3 Summary of Environmental Effects by Resource						
Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Primary Study Area	No Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area, Sites Reservoir Dams	N/A				None	N/A
Construction	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Cul-1a	No Impact
					Cul-2a: Follow the Secretary of the Interior’s Standards for the Treatment of Historical Resources/Historic Properties	Less than Significant
					Cul-2b: Record Built Environment Resources to Historic American Buildings Survey (HABS) and Historic American Engineering Record (HAER) Standards	Significant and Unavoidable if eligible for CRHR or NRHP listing
Operations	N/A	No Impact	No Impact	No Impact	None	N/A
Recreation Areas	N/A	No Impact	No Impact	No Impact	None	N/A
Road Relocations and South Bridge	N/A	No Impact	No Impact	No Impact	None	N/A
Sites Pumping/Generating Plant, Sites Electrical Switchyard, Tunnel, Sites Reservoir Inlet/Outlet Structure, Field Maintenance Office	N/A	No Impact	No Impact	No Impact	None	N/A
Holthouse Reservoir Complex, Holthouse Reservoir Electrical Switchyard	N/A	No Impact	No Impact	No Impact	None	N/A
GCID Canal Facilities Modifications	N/A				None	N/A
Construction	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Cul-1a, Cul-2a and Cul-2b	No Impact/ Less than Significant/ Significant and Unavoidable if eligible for CRHR or NRHP listing
Operations	N/A	No Impact	No Impact	No Impact	None	N/A
TRR, TRR Pumping/Generating Plant, TRR Electrical Switchyard, GCID Canal Connection to the TRR, Delevan Transmission Line, Delevan Pipeline, TRR Pipeline, TRR Pipeline Road, Delevan Pipeline Electrical Switchyard, Delevan Pipeline Intake Facilities	N/A				None	N/A
Construction	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Cul-1a, Cul-2a and Cul-2b	No Impact/ Less than Significant/ Significant and Unavoidable if eligible for CRHR or NRHP listing
Operations	N/A	No Impact	No Impact	No Impact	None	N/A
Project Buffer - construction	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Cul-1a, Cul-2a and Cul-2b	No Impact/ Less than Significant/ Significant and Unavoidable if eligible for CRHR or NRHP listing
Proposed Buffer - operations	N/A	No Impact	No Impact	No Impact	None	N/A
Delevan Pipeline Discharge Facility	N/A	N/A	Potentially Significant	N/A	Cul-1a, Cul-2a and Cul-2b	No Impact/ Less than Significant/ Significant and Unavoidable if eligible for CRHR or NRHP listing

Table ES-3
Summary of Environmental Effects by Resource

Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Impact Cul-3: Disturb a Traditional Cultural Property						
Extended Study Area						
Agricultural, Municipal, Industrial, and Wildlife Refuge Water Use	No Substantial Adverse Effect	Potentially Significant	Potentially Significant	Potentially Significant	Cul-1e	Less than Significant or Significant and Unavoidable
San Luis Reservoir	No Substantial Adverse Effect	No Impact/ Potentially Significant	No Impact/ Potentially Significant	No Impact/ Potentially Significant	Cul-1e	Less than Significant or Significant and Unavoidable
Secondary Study Area	No Substantial Adverse Effect	No Impact/ Less than Significant	No Impact/ Less than Significant	No Impact/ Less than Significant	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area, Sites Reservoir Dams; Road Relocations and South Bridge	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Cul-1a	No Impact
					Cul-3: Consult with Native American Communities regarding How to Mitigate for Impacts to TCPs	Less than Significant or Significant and Unavoidable for some categories of TCPs
Recreation Areas; Sites Pumping/Generating Plant, Sites Electrical Switchyard, Tunnel, Sites Reservoir Inlet/Outlet Structure, Field Maintenance Office; Holthouse Reservoir Complex, Holthouse Reservoir Electrical Switchyard; Project Buffer	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Cul-1a and Cul-3	No Impact/ Less than Significant or Significant and Unavoidable for some categories of TCPs
GCID Canal Facilities Modifications	N/A	No Impact	No Impact	No Impact	None	N/A
TRR, TRR Pumping/Generating Plant, TRR Electrical Switchyard, GCID Canal Connection to the TRR, Delevan Transmission Line, Delevan Pipeline, TRR Pipeline, TRR Pipeline Road, Delevan Pipeline Electrical Switchyard, Delevan Pipeline Intake Facilities	N/A				None	N/A
Construction	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Cul-1a and Cul-3	No Impact Less than Significant or Significant and Unavoidable for some categories of TCPs
Operations	N/A	No Impact	No Impact	No Impact	None	N/A
Delevan Pipeline Discharge Facility	N/A	N/A	Potentially Significant	N/A	Cul-1a and Cul-3	No Impact/ Less than Significant or Significant and Unavoidable for some categories of TCPs
Impact Cul-4: Disturb Human Remains, including those Interred Outside of Formal Cemeteries						
Extended Study Area	No Substantial Adverse Effect	Potentially Significant	Potentially Significant	Potentially Significant	Cul-1e	Less than Significant or Significant and Unavoidable
Secondary Study Area	No Substantial Adverse Effect	No Impact/ Less than Significant	No Impact/ Less than Significant	No Impact/ Less than Significant	None	N/A

Table ES-3: Summary of Environmental Effects by Resource

Table ES-3 Summary of Environmental Effects by Resource						
Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Primary Study Area	No Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area, Sites Reservoir Dams; Road Relocations and South Bridge; Project Buffer	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Cul-1a	No Impact
					Cul-4a: Relocation of Known Cemeteries	Less than Significant
					Cul-4b: Immediately Halt Construction if Human Remains are Discovered and Implement a Burial Treatment Plan	Less than Significant
Recreation Areas; Holthouse Reservoir Complex, Holthouse Reservoir Electrical Switchyard	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Cul-1a and Cul-4a through Cul-4b	No Impact/ Less than Significant
Sites Pumping/Generating Plant, Sites Electrical Switchyard, Tunnel, Sites Reservoir Inlet/Outlet Structure, Field Maintenance Office	N/A				None	N/A
Construction	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Cul-1a and Cul-4a through Cul-4b	No Impact/ Less than Significant
Operations	N/A	No Impact	No Impact	No Impact	None	N/A
GCID Canal Facilities Modifications, TRR, TRR Pumping/Generating Plant, TRR Electrical Switchyard, GCID Canal Connection to the TRR, Delevan Transmission Line, Delevan Pipeline, TRR Pipeline, TRR Pipeline Road, Delevan Pipeline Electrical Switchyard, Delevan Pipeline Intake Facilities	N/A				None	N/A
Construction	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Cul-1a and Cul-4a through Cul-4b	No Impact/ Less than Significant
Operations	N/A	No Impact	No Impact	No Impact	None	N/A
Delevan Pipeline Discharge Facility	N/A	N/A	Potentially Significant	Same as Alt. A	Cul-1a and Cul-4a through Cul-4b	No Impact/ Less than Significant
19. Indian Trust Assets						
Extended, Secondary and Primary Study Areas	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None required	N/A
20. Land Use						
Impact Land-1: Physical Division of an Established Community						
Extended Study Area	No Substantial Adverse Effect	No Impact/Less than Significant	No Impact/Less than Significant	No Impact/Less than Significant	None	N/A
Secondary Study Area	No Substantial Adverse Effect				None	N/A
Pump Installation at the Red Bluff Pumping Plant	N/A	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area; Sites Reservoir Dams South Bridge	N/A	Significant Impact	Significant Impact	Significant Impact	No Feasible Mitigation	Significant and Unavoidable
Recreation Areas; Road Relocations; TRR Pipeline Road; Sites Pumping/Generating Plant, Sites Electrical Switchyard, Tunnel, Sites Reservoir Inlet/Outlet Structure; Field Office Maintenance Yard; Holthouse Reservoir Complex; Holthouse Electrical Switchyard; Delevan Pipeline Electrical Switchyard; GCID Canal Facilities Modifications; GCID Canal Connection to the TRR; TRR; TRR Pumping/Generating Plant; TRR Electrical Switchyard; Delevan Pipeline; TRR Pipeline; Delevan Transmission Line; Delevan Pipeline Intake Facilities; Delevan Pipeline Discharge Facility, Electrical Distribution Lines, Project Buffer	N/A	N/A	N/A	N/A	None	N/A
Impact Land-2: Conflict with an Applicable Land Use Plan, Policy, or Regulation of an Agency with Jurisdiction over the Project Adopted for the Purpose of Avoiding or Mitigating an Environmental Effect						
Extended Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A

Table ES-3
Summary of Environmental Effects by Resource

Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Secondary Study Area	No Substantial Adverse Effect				None	N/A
Pump Installation at the Red Bluff Pumping Plant	N/A	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect					
Glenn County portion of Sites Reservoir Inundation Area, Sites Reservoir Dams, Recreation Areas, Road Relocations, Project Buffer	N/A	Significant Impact	Significant Impact	Significant Impact	Land-2a: To the Extent Possible, Work with Glenn County to Encourage the County to Modify or Amend the Glenn County General Plan to Bring it into Consistency with the Proposed Project Land Uses	Less than Significant or Significant and Unavoidable
Colusa County portion of Sites Reservoir Inundation Area, Sites Reservoir Dams, Recreation Areas, Road Relocations, Project Buffer	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
GCID Canal Facilities Modifications	N/A	No Impact	No Impact	No Impact	None	N/A
Delevan Pipeline, Delevan Transmission Line (construction)	N/A	Significant Impact	Significant Impact	Significant Impact	Land-2b: Execute an Agreement with NRCS to Amend WRP Easement Contract and Conduct Post-Construction Wetland Restoration	Less than Significant
South Bridge, Sites Pumping/Generating Plant, Sites Electrical Switchyard, Tunnel, Sites Reservoir Inlet/Outlet Structure; Field Office Maintenance Yard; Holthouse Reservoir Complex; Holthouse Electrical Switchyard; Delevan Pipeline Electrical Switchyard; GCID Canal Connection to the TRR; TRR; TRR Pumping/Generating Plant; TRR Electrical Switchyard; TRR Pipeline; Delevan Pipeline Intake Facilities; Delevan Pipeline Discharge Facility, Electrical Distribution Lines	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Impact Land-3: Changes in Land Use as a Result of Implementing the Alternatives that are Considered to be Incompatible with the Existing and General Plan Designated Land Uses at and Adjacent to the Proposed Project Facilities						
Extended Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Secondary Study Area	No Substantial Adverse Effect				None	N/A
Pump Installation at the Red Bluff Pumping Plant	N/A	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
GCID Canal Facilities Modifications, Project Buffer	N/A	No Impact	No Impact	No Impact	None	N/A
Delevan Pipeline, TRR Pipeline, Delevan Transmission Line, Electrical Distribution Lines	N/A	No Impact/ Significant	No Impact/ Significant	No Impact/ Significant	Land-3a: To the Extent Possible, Work with Glenn and Colusa Counties to Encourage the Counties to Modify or Amend the Glenn County and Colusa County General Plans' Land Use Designations to Bring them into Consistency with the Proposed Project Land Uses	Less than Significant
Sites Reservoir Inundation Area, Sites Reservoir Dams	N/A	No Impact/ Significant	No Impact/ Significant	No Impact/ Significant	Cul-4a	Less than Significant
					Land-3a	Less than Significant or Significant and Unavoidable
Recreation Areas; Road Relocations and South Bridge, TRR Pipeline Road; Sites Pumping/Generating Plant; Sites Electrical Switchyard; Tunnel; Sites Reservoir Inlet/Outlet Structure; Field Office Maintenance Yard; Holthouse Reservoir Complex; Holthouse Reservoir Electrical Switchyard; Delevan Pipeline Electrical Switchyard; TRR; TRR Pumping/Generating Plant; GCID Canal Connection to the TRR; TRR Electrical Switchyard	N/A	No Impact/ Significant	No Impact/ Significant	No Impact/ Significant	Land-3a	Less than Significant or Significant and Unavoidable
Delevan Pipeline Intake Facilities	N/A	No Impact/ Significant	N/A	No Impact/ Significant	Land-3a	Less than Significant
					Land-3b: Execute an Agreement with Maxwell Irrigation District to Minimize and Avoid Short-Term and Long-Term Impacts to Existing Facilities and Operations	
Delevan Pipeline Discharge Facility	N/A	N/A	No Impact/ Significant	N/A	Land-3a and Land-3b	Less than Significant

Table ES-3: Summary of Environmental Effects by Resource

Table ES-3 Summary of Environmental Effects by Resource						
Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Impact Land-4: Permanent Conversion of Prime Farmland, as Shown on the Maps Prepared Pursuant to the FMMP of the California Resources Agency, to Non-Agricultural Use						
Extended Study Area	No Substantial Adverse Effect	No Impact/ Less than Significant	No Impact/ Less than Significant	No Impact/ Less than Significant	None	N/A
Secondary Study Area	No Substantial Adverse Effect				None	N/A
Pump Installation at the Red Bluff Pumping Plant	N/A	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
Colusa County portions of Road Relocations, TRR Pipeline Road, Holthouse Reservoir Complex, Holthouse Reservoir Electrical Switchyard, Delevan Pipeline Electrical Switchyard, TRR, TRR Pumping/Generating Plant, GCID Canal Connection to the TRR, TRR Electrical Switchyard	N/A	Significant	Significant	Significant	Land-4a: Enter into Agricultural Conservation Easements with Glenn and Colusa Counties	Less than Significant
Delevan Pipeline Intake Facilities	N/A	Significant	N/A	Significant	Land-4a	Less than Significant
Delevan Pipeline Discharge Facility	N/A	N/A	Significant	N/A	Land-4a	Less than Significant
Glenn County portions of Road Relocations	N/A	No Impact	No Impact	No Impact	None	N/A
Delevan Transmission Line, Project Buffer	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Sites Reservoir Inundation Area; Sites Reservoir Dams; Road Relocations and South Bridge; Recreation Areas; Sites Pumping/Generating Plant, Sites Electrical Switchyard, Tunnel, Sites Reservoir Inlet/Outlet Structure; Field Office Maintenance Yard; GCID Canal Facilities Modifications; Delevan Pipeline; TRR Pipeline; Electrical Distribution Lines	N/A	No Impact	No Impact	No Impact	None	N/A
Impact Land-5: Permanent Conflict with Existing Zoning for Agricultural Use, and/or the Permanent Conversion of Lands that have a Williamson Act Contract						
Extended Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Secondary Study Area	No Substantial Adverse Effect				None	N/A
Pump Installation at the Red Bluff Pumping Plant	N/A	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area; Sites Reservoir Dams; Road Relocations and South Bridge; Recreation Areas; TRR Pipeline Road; Sites Pumping/Generating Plant, Sites Electrical Switchyard, Tunnel, Sites Reservoir Inlet/Outlet Structure, Field Office Maintenance Yard, Holthouse Reservoir Complex, Holthouse Reservoir Electrical Switchyard, Delevan Pipeline Electrical Switchyard, Project Buffer	N/A				None	N/A
Zoning	N/A	Significant	Significant	Significant	Land-5a: To the Extent Possible, Work with Glenn and Colusa Counties to Encourage the Counties to Modify or Amend the Glenn County and Colusa County General Plans' Zoning Designations to Bring them into Consistency with the Proposed Project Land Uses	Less than Significant or Significant and Unavoidable
Williamson Contract	N/A	Significant	Significant	Significant	Land-5b: Acquire Lands Through Eminent Domain	Less than Significant
					Land-5c: For Land Permanently Acquired other than by Eminent Domain, Seek County Approvals to Rescind Williamson Act Contracts and Enter in Open Space Contracts or Open Space Easements	Less than Significant or Significant and Unavoidable
Delevan Transmission Line, Delevan Pipeline	N/A				None	N/A
Zoning	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Williamson Contract	N/A	Significant	Significant	Significant	Land-5b	Less than Significant
					Land-5c	Less than Significant or Significant and Unavoidable

Table ES-3
Summary of Environmental Effects by Resource

Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
GCID Canal Facilities Modifications, Delevan Pipeline, TRR Pipeline	N/A	No Impact	No Impact	No Impact	None	N/A
GCID Canal Connection to the TRR, TRR; TRR Pumping/Generating Plant, TRR Electrical Switchyard	N/A				None	N/A
Zoning	N/A	Significant	Significant	Significant	Land-5a	Less than Significant or Significant and Unavoidable
Williamson Contract	N/A	No Impact	No Impact	No Impact	None	N/A
Delevan Transmission Line; Electrical Distribution Lines	N/A				None	N/A
Zoning	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Williamson Contract	N/A	Significant	Significant	Significant		
Delevan Pipeline Intake Facilities	N/A		N/A		None	N/A
Zoning	N/A	Significant	N/A	Significant	Land-5a	Less than Significant or Significant and Unavoidable
Williamson Contract	N/A	No Impact	N/A	No Impact	None	N/A
Delevan Pipeline Discharge Facility	N/A	N/A		N/A	None	N/A
Zoning	N/A	N/A	Significant	N/A	Land-5a	Less than Significant or Significant and Unavoidable
Williamson Contract	N/A	N/A	No Impact	N/A	None	N/A
Impact Land-6: Permanent Conflict with Existing Zoning for, or Cause Rezoning of, Forest Land (as Defined in Public Resources Code Section 12220(g)), Timberland (as Defined by Public Resources Code Section 4526), or Timberland Zoned Timberland Production (as Defined by Government Code Section 51104(g))						
Extended Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Secondary Study Area	No Substantial Adverse Effect				None	N/A
Pump Installation at the Red Bluff Pumping Plant	N/A	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area; Sites Reservoir Dams; Road Relocations and South Bridge; Recreation Areas; TRR Pipeline Road; Sites Pumping/Generating Plant, Sites Electrical Switchyard, Tunnel, Sites Reservoir; Inlet/Outlet Structure, Field Office Maintenance Yard, Holthouse Reservoir Complex; Holthouse Reservoir Electrical Switchyard; Delevan Pipeline Electrical Switchyard; Delevan Transmission Line; Project Buffer	N/A	Significant	Significant	Significant	Land-5a	Less than Significant or Significant and Unavoidable
GCID Canal Facilities Modifications, GCID Canal Connection to the TRR, TRR, TRR Pumping/Generating Plant; TRR Electrical Switchyard; Delevan Pipeline; TRR Pipeline	N/A	No Impact	No Impact	No Impact	None	N/A
Electrical Distribution Lines	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Delevan Pipeline Intake Facilities	N/A	No Impact	N/A	No Impact	None	N/A
Delevan Pipeline Discharge Facility	N/A	N/A	No Impact	N/A	None	N/A
Impact Land-7: The Permanent Loss of Forest Land or Permanent Conversion of Forest Land to Non-Forest Use						
Extended Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Secondary Study Area	No Substantial Adverse Effect				None	N/A
Pump Installation at the Red Bluff Pumping Plant	N/A	No Impact	No Impact	No Impact	None	N/A

Table ES-3: Summary of Environmental Effects by Resource

Table ES-3 Summary of Environmental Effects by Resource						
Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Primary Study Area	No Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area; Sites Reservoir Dams; South Bridge; Recreation Areas; Project Buffer	N/A	Significant	Significant	Significant	Land-3a	Less than Significant or Significant and Unavoidable
Road Relocations; TRR Pipeline Road; Sites Pumping/Generating Plant, Sites Electrical Switchyard, Tunnel, Sites Reservoir Inlet/Outlet Structure, Field Office Maintenance Yard, Holthouse Reservoir Complex, Holthouse Reservoir Electrical Switchyard, Delevan Pipeline Electrical Switchyard, GCID Canal Facilities Modifications, GCID Canal Connection to the TRR, TRR, TRR Pumping/Generating Plant; TRR Electrical Switchyard, Delevan Transmission Line, Delevan Pipeline, TRR Pipeline, Electrical Distribution Lines	N/A	No Impact	No Impact	No Impact	None	N/A
Delevan Pipeline Intake Facilities	N/A	No Impact	N/A	No Impact	None	N/A
Delevan Pipeline Discharge Facility	N/A	N/A	No Impact	N/A	None	N/A
Impact Land-8: Other Changes in the Existing Environment Which, due to Their Location or Nature, Could Result in the Permanent Conversion of Prime Farmland, Unique Farmland, Farmland of Statewide Importance, Farmland of Local Importance, and Local Potential Farmland to Non-Agricultural Use or Permanent Conversion of Forest Land to Non-Forest Use						
Extended Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Secondary Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Pump Installation at the Red Bluff Pumping Plant	N/A	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area ; Sites Reservoir Dams; Project Buffer	N/A	Significant	Significant	Significant	Land-3a	Less than Significant or Significant and Unavoidable
					Land-4a	Less than Significant
Road Relocations and South Bridge; Recreation Areas, Sites Pumping/Generating Plant, Sites Electrical Switchyard, Tunnel, Sites Reservoir Inlet/Outlet Structure, Field Office Maintenance Yard, Holthouse Reservoir Complex; Holthouse Reservoir Electrical Switchyard, Delevan Pipeline Electrical Switchyard; GCID Canal Connection to the TRR, TRR, TRR Pumping/Generating Plant; TRR Electrical Switchyard; Delevan Transmission Line	N/A	Significant	Significant	Significant	Land-4a	Less than Significant
Delevan Pipeline, TRR Pipeline, Electrical Distribution Lines	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
GCID Canal Facilities Modifications	N/A	No Impact	No Impact	No Impact	None	N/A
Delevan Pipeline Intake Facilities	N/A	Significant	N/A	Significant	Land-4a	Less than Significant
Delevan Pipeline Discharge Facility	N/A	N/A	Significant	N/A	Land-4a	Less than Significant
21. Recreation Resources						
Impact Rec-1: Increase the Use of Existing Neighborhood and Regional Parks or Other Recreational Facilities such that Substantial Physical Deterioration of the Facility would Occur or be Accelerated						
Extended Study Area						
Wildlife Refuge Water Use, San Luis Reservoir, Other Reservoirs	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Secondary Study Area						
Trinity Lake, Trinity River, Klamath River downstream of the Trinity River, Shasta Lake, Sacramento River, Pump Installation at the Red Bluff Pumping Plant, Clear Creek, Lake Oroville, Feather River, Folsom Lake, American River, Sacramento-San Joaquin Delta, Suisun Bay, San Pablo Bay, San Francisco Bay, Other Reservoirs	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Sutter Bypass, Yolo Bypass	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A

Table ES-3
Summary of Environmental Effects by Resource

Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Primary Study Area	No Substantial Adverse Effect				None	N/A
All Primary Study Area Project Facilities with the exception of the Delevan Pipeline Intake/Discharge Facilities	N/A	No Impact	No Impact	No Impact	None	N/A
Delevan Pipeline Intake Facilities	N/A	Less than Significant	N/A	Less than Significant	None	N/A
Delevan Pipeline Discharge Facility	N/A	N/A	Less than Significant	N/A	None	N/A
Impact Rec-2: Require the Construction or Expansion of Existing Recreational Facilities, which may have an Adverse Effect on the Environment						
Extended Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Secondary Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
All Primary Study Area Project Facilities	N/A	No Impact	No Impact	No Impact	None	N/A
Impact Rec-3: Reduce Recreation Use Levels at Existing Nearby Recreation Facilities by Providing an Alternative New Site for Recreation Visitors						
Extended Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Secondary Study Area						
Trinity Lake, Trinity River, Klamath River downstream of the Trinity River, Shasta Lake, Sacramento River, Pump Installation at the Red Bluff Pumping Plant, Clear Creek, Feather River, American River, Sutter Bypass, Yolo Bypass, Sacramento-San Joaquin Delta, Suisun Bay, San Pablo Bay, San Francisco Bay, Other Reservoirs	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Lake Oroville, Folsom Lake	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
All Primary Study Area Project Facilities	N/A	No Impact	No Impact	No Impact	None	N/A
Impact Rec-4: Affect Recreation Use Levels and/or Recreation Benefits at Existing Reservoirs or Rivers due to Changes in Operating Criteria						
Extended Study Area						
San Luis Reservoir	Beneficial Effect/No Substantial Adverse Effect	Beneficial Effect/ Potentially Significant	No Impact/ Beneficial Effect/ Potentially Significant	Less than Significant/Beneficial Effect/ Potentially Significant	Rec-4a: Extend the Existing Dinosaur Point Boat Ramp at San Luis Reservoir (Alternative C only)	Less than Significant
					Rec-4b: Extend the Basalt Campground Water Intake at San Luis Reservoir	Less than Significant
Other Reservoirs	Potentially Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Secondary Study Area						
Trinity Lake	Beneficial Effect/ No Substantial Adverse Effect	Beneficial Effect	Beneficial Effect	Beneficial Effect	None	N/A
Klamath River downstream of the Trinity River, Clear Creek, Sacramento-San Joaquin Delta; Suisun Bay, San Pablo Bay, San Francisco Bay, Other Reservoirs	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Trinity River; Feather River; Sacramento River, Sutter Bypass, Yolo Bypass	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A

Table ES-3: Summary of Environmental Effects by Resource

Table ES-3 Summary of Environmental Effects by Resource						
Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Shasta Lake	No Substantial Adverse Effect/Potentially Substantial Adverse Effect/Beneficial Effect	Beneficial Effect	Beneficial Effect	Beneficial Effect	None	N/A
Lake Oroville	Potentially Substantial Adverse Effect/ Beneficial Effect	No Impact/ Beneficial Effect	No Impact/ Beneficial Effect	No Impact/ Beneficial Effect	None required	N/A
Folsom Lake	Potentially Substantial Adverse Effect	Beneficial Effect/ Potentially Beneficial Effect	Beneficial Effect	Beneficial Effect	None	N/A
American River	Potentially Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None required	N/A
Pump Installation at the Red Bluff Pumping Plant	N/A	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect	N/A	N/A	N/A	None	N/A
Impact Rec-5: Reduce Recreation Use Levels at Existing Recreation Facilities During the Period of Construction						
Extended Study Area	N/A	N/A	N/A	N/A	None	N/A
Secondary Study Area						
Pump Installation at the Red Bluff Pumping Plant	N/A	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	N/A				None	N/A
Sites Reservoir Inundation Areas, Sites Reservoir Dams; Recreation Areas, Road Relocations and South Bridge; Sites Pumping/Generating Plant; Sites Electrical Switchyard; Tunnel; Sites Reservoir Inlet/Outlet Structure; Field Office Maintenance Yard; Holthouse Reservoir Complex; Holthouse Reservoir Electrical Switchyard, GCID Canal Facilities Modifications; GCID Canal Connection to the TRR; TRR; TRR Pumping/Generating Plant; TRR Electrical Switchyard, TRR Pipeline; TRR Pipeline Road, Delevan Pipeline Electrical Switchyard, Project Buffer	N/A	No Impact	No Impact	No Impact	None	N/A
Delevan Pipeline	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Delevan Transmission Line	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Delevan Pipeline Intake Facilities	N/A	Less than Significant	N/A	Less than Significant	None	N/A
Delevan Pipeline Discharge Facility	N/A	N/A	Less than Significant	N/A	None	N/A
22. Socioeconomics						
Impact Socio-1: Effects on Regional Economics						
Extended and Secondary Study Areas	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Primary Study Area	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Impact Socio-2: Effects on Population and Housing						
Extended and Secondary Study Areas	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Primary Study Area	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Impact Socio-3: Effects on Local Government Fiscal Conditions						
Extended and Secondary Study Areas	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Primary Study Area	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A

Table ES-3
Summary of Environmental Effects by Resource

Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Impact Socio-4: Effects on Recreation Economics						
Extended and Secondary Study Areas	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Primary Study Area	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Impact Socio-5: Effects on Agricultural Economics						
Extended and Secondary Study Areas	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Primary Study Area	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Impact Socio-6: Effects on M&I Water Use Economics						
Extended and Secondary Study Areas	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Primary Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
23. Environmental Justice						
Impact Env Jus-1: A Disproportionate Share of an Adverse Impact (such as Traffic, Noise, Dust, Hazards, and/or Socioeconomic Effects) on a Minority or Low-Income Population, Including the Potential for Minority or Low-Income Populations to be Disproportionately Affected by Multiple Adverse Exposures Impacts						
Extended Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Secondary Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Primary Study Area						
Minority, Low-Income, and Hispanic Populations	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Job and Recreational Opportunities	No Substantial Adverse Effect	Potentially Beneficial Effect	Potentially Beneficial Effect	Potentially Beneficial Effect	None	N/A
24. Air Quality						
Impact Air Qual-1: Conflict with an Applicable Air Quality Plan, Contribute Substantially to an Air Quality Violation, and/or Result in a Cumulatively Considerable Net Increase of Nonattainment Pollutants						
Extended and Secondary Study Areas	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
Construction Impacts	N/A	Significant	Significant	Significant	Air Qual-1a: Develop a Fugitive Dust Control Plan.	Significant and Unavoidable for Emissions of PM ₁₀
					Air Qual-1b: Implement Measures to Reduce Equipment and Vehicle Exhaust Emissions.	Significant and Unavoidable for Emissions of NO _x , PM ₁₀ , and ROG
						Less than Significant for Emissions of SO _x , CO, and PM _{2.5}
Operation and Maintenance Impacts	N/A	Significant	Significant	Significant	Air Qual-1a	Less than Significant
					Air Qual-1b	Less than Significant
Impact Air Qual-2: Expose Sensitive Receptors to Substantial Pollutant Concentrations						
Extended and Secondary Study Areas	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A

Table ES-3: Summary of Environmental Effects by Resource

Table ES-3 Summary of Environmental Effects by Resource						
Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Primary Study Area	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Impact Air Qual-3: Create Objectionable Odors Affecting a Substantial Number of People						
Extended and Secondary Study Areas	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Primary Study Area	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
25. Climate Change and Greenhouse Gas Emissions						
Impact GHG-1: Generation of Cumulative GHG Emissions						
Extended, Secondary, and Primary Study Areas						
Construction, Operation, and Maintenance of the Proposed Project	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Operation of Existing SWP Facilities	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
CVP Operational Emissions	No Substantial Adverse Effect	Potentially Significant	Potentially Significant	Potentially Significant	No Feasible Mitigation	Potentially Significant and Unavoidable
Open Water Surfaces and Tailraces	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
26. Navigation, Transportation, and Traffic						
Navigation						
Impact Nav-1: Conflict with Navigation Along any of the Navigable Waterways within the Primary, Secondary, or Extended Study Areas						
Extended and Secondary Study Areas	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
Construction of Delevan Pipeline Intake/ Discharge Facilities	N/A	Less than Significant	Less than Significant	Less than Significant	None required	N/A
Transportation and Traffic						
Impact Trans-1: Conflict with an Applicable Plan, Ordinance, or Policy Establishing Measures of Effectiveness for the Performance of the Circulation System, Considering all Modes of Transportation						
Extended and Secondary Study Areas	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect	Less than Significant/ Significant	Less than Significant/ Significant	Less than Significant/ Significant	Trans-1: Prepare and Implement a Project Operation Traffic Control Plan	Less than Significant
Impact Trans-2: Conflict with an Applicable Congestion Management Program, Including, but not Limited to, Level of Service Standards and Travel Demand Measures, or Other Standards Established by the County Congestion Management Agency for Designated Roads or Highways						
Extended, Secondary and Primary Study Areas	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Impact Trans-3: Substantially Increase Hazards Due to a Design Feature or Incompatible Uses						
Extended and Secondary Study Areas	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
Construction	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Trans-3: Prepare and Implement a Project Construction Traffic Control Plan	Less than Significant
Operation and Maintenance	N/A	No Impact	No Impact	No Impact	None	N/A
Impact Trans-4: Result in Inadequate Emergency Access						
Extended and Secondary Study Areas	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A

Table ES-3
Summary of Environmental Effects by Resource

Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Primary Study Area	No Substantial Adverse Effect				None	N/A
Construction	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Operation and Maintenance	N/A	No Impact	No Impact	No Impact	None	N/A
Impact Trans-5: Conflict with Adopted Policies, Plans, or Programs Regarding Public Transit, Bicycle, or Pedestrian Facilities, or Otherwise Decrease the Performance or Safety of Such Facilities						
Extended and Secondary Study Areas	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
Construction and Operation	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Maintenance	N/A	No Impact	No Impact	No Impact	None	N/A
27. Noise						
Impact Noise-1: Expose persons to or generation of noise levels in excess of established standards						
Extended Study Area	No Substantial Adverse Effect	No Impact	Same as Alt. A	Same as Alt. A	None	N/A
Secondary Study Area						
Trinity Lake, Lewiston Lake, Trinity River, Klamath River downstream of the Trinity River, Whiskeytown Lake, Spring Creek, Shasta Lake, Keswick Reservoir, Clear Creek, Lake Oroville, Thermalito Complex; Feather River; Sutter Bypass; Yolo Bypass; Folsom Lake; Lake Natoma; American River; Sacramento-San Joaquin Delta; Suisun Bay; San Pablo Bay; San Francisco Bay	No Substantial Adverse Effect	No Impact	Same as Alt. A	Same as Alt. A	None	N/A
Pump Installation at the Red Bluff Pumping Plant	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area, Sites Reservoir Dams, Recreation Areas, Sites Pumping/Generating Plant, Sites Electrical Switchyard, Tunnel, Sites Reservoir Inlet/Outlet Structure, Field Office Maintenance Yard, Holthouse Reservoir Complex, Holthouse Reservoir Electrical Switchyard, Delevan Pipeline Electrical Switchyard	N/A	No Impact	No Impact	No Impact	None	N/A
Road Relocations and South Bridge	N/A				None	N/A
Construction	N/A	Significant Impact	Significant Impact	Significant Impact	Noise-1a: DWR and Reclamation Shall Include in the Construction and Maintenance Contracts Specifications to Reduce Noise Levels	Less than Significant
Operation and Maintenance	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
GCID Canal Facilities Modifications	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
TRR, GCID Canal Connection to the TRR, TRR Pumping/Generating Plant, TRR Electrical Switchyard, TRR Pipeline, TRR Pipeline Road	N/A				None	N/A
Construction	N/A	Significant Impact	Significant Impact	Significant Impact	Noise-1a	Less than Significant
Operation	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Noise-1b: Design Facilities to Incorporate Noise Mitigation	Less than Significant
Maintenance	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Delevan Pipeline, Delevan Transmission Line	N/A				None	N/A
Construction	N/A	Significant Impact	Significant Impact	Significant Impact	Noise-1a	Less than Significant
Operation and Maintenance	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Delevan Pipeline Intake Facilities	N/A		N/A			
Construction	N/A	Significant Impact	N/A	Significant Impact	Noise-1a	Less than Significant
Operation and Maintenance	N/A	Potentially Significant	N/A	Potentially Significant	Noise-1b	Less than Significant

Table ES-3: Summary of Environmental Effects by Resource

Table ES-3 Summary of Environmental Effects by Resource						
Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Delevan Pipeline Discharge Facility	N/A	N/A		N/A	None	N/A
Construction	N/A	N/A	Significant Impact	N/A	Noise-1a	Less than Significant
Operation and Maintenance	N/A	N/A	Potentially Significant	N/A	Noise-1b	Less than Significant
Project Buffer	N/A				None	N/A
Construction and Maintenance	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Noise-1a	Less than Significant
Operation	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Noise-1b	Less than Significant
Impact Noise-2: Expose persons to or generation of excessive ground borne vibration or ground borne noise levels						
Extended Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Secondary Study Area						
Trinity Lake, Lewiston Lake, Trinity River, Klamath River downstream of the Trinity River, Whiskeytown Lake, Spring Creek, Shasta Lake, Keswick Reservoir, Clear Creek, Lake Oroville, Thermalito Complex; Feather River; Sutter Bypass; Yolo Bypass; Folsom Lake; Lake Natoma; American River; Sacramento-San Joaquin Delta; Suisun Bay; San Pablo Bay; San Francisco Ba	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Pump Installation at the Red Bluff Pumping Plant	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area, Sites Reservoir Dams, Recreation Areas, Sites Pumping/Generating Plant, Sites Electrical Switchyard, Tunnel, Sites Reservoir Inlet/Outlet Structure, Field Office Maintenance Yard, Holthouse Reservoir Complex, Holthouse Reservoir Electrical Switchyard, Delevan Pipeline Electrical Switchyard	N/A	No Impact	No Impact	No Impact	None	N/A
Road Relocations and South Bridge	N/A				None	N/A
Construction	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Operation and Maintenance	N/A	No Impact	No Impact	No Impact	None	N/A
GCID Canal Facilities Modifications	N/A				None	N/A
Construction	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Noise-2: Develop and Implement a Vibration Monitoring Plan	Less than Significant
Operation and Maintenance	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
TRR, GCID Canal Connection to the TRR, TRR Pumping/Generating Plant, TRR Electrical Switchyard, TRR Pipeline, TRR Pipeline Road	N/A				None	N/A
Construction	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Noise-2	Less than Significant
Operation and Maintenance	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Delevan Pipeline, Delevan Transmission Line	N/A				None required	N/A
Construction- Pipeline	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Noise-2	Less than Significant
Construction- Transmission	N/A	No Impact	No Impact	No Impact	None	N/A
Operation and Maintenance	N/A	No Impact	No Impact	No Impact	None	N/A
Delevan Pipeline Intake Facilities	N/A				None	N/A
Construction	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Operation	N/A	No Impact	No Impact	No Impact	None	N/A
Delevan Pipeline Discharge Facility	N/A	N/A		N/A	None	N/A
Construction	N/A	N/A	Less than Significant	N/A	None	N/A
Operation and Maintenance	N/A	N/A	No Impact	N/A	None	N/A
Project Buffer	N/A	No Impact	No Impact	No Impact	None	N/A

Table ES-3
Summary of Environmental Effects by Resource

Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Impact Noise-3: Result in a substantial permanent increase in ambient noise levels in the Project vicinity						
Extended Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Secondary Study Area						
Trinity Lake, Lewiston Lake, Trinity River, Klamath River downstream of the Trinity River, Whiskeytown Lake, Spring Creek, Shasta Lake, Keswick Reservoir, Clear Creek, Lake Oroville, Thermalito Complex; Feather River; Sutter Bypass; Yolo Bypass; Folsom Lake; Lake Natoma; American River; Sacramento-San Joaquin Delta; Suisun Bay; San Pablo Bay; San Francisco Ba	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Pump Installation at the Red Bluff Pumping Plant	N/A	No Impact/ Less than Significant	No Impact/ Less than Significant	No Impact/ Less than Significant	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area, Sites Reservoir Dams, Recreation Areas, Sites Pumping/Generating Plant, Sites Electrical Switchyard, Tunnel, Sites Reservoir Inlet/Outlet Structure, Field Office Maintenance Yard, Holthouse Reservoir Complex, Holthouse Reservoir Electrical Switchyard, Delevan Pipeline Electrical Switchyard	N/A	No Impact	No Impact	No Impact	None	N/A
Road Relocations and South Bridge	N/A				None	N/A
Construction and Maintenance	N/A	No Impact	No Impact	No Impact	None	N/A
Operation	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
GCID Canal Facilities Modifications	N/A				None	N/A
Construction	N/A	No Impact	No Impact	No Impact	None	N/A
Operation and Maintenance	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
TRR, GCID Canal Connection to the TRR, TRR Pumping/Generating Plant, TRR Electrical Switchyard, TRR Pipeline, TRR Pipeline Road	N/A				None	N/A
Construction	N/A	No Impact	No Impact	No Impact	None	N/A
Operation and Maintenance	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Noise-1a and Noise-1b	Less than Significant
Delevan Pipeline, Delevan Transmission Line	N/A				None	N/A
Construction	N/A	No Impact	No Impact	No Impact	None	N/A
Operation and Maintenance	N/A	No Impact/ Less than Significant	No Impact/ Less than Significant	No Impact/ Less than Significant	None	N/A
Delevan Pipeline Intake Facilities	N/A		N/A		None	N/A
Construction and Maintenance	N/A	No Impact	N/A	No Impact	None	N/A
Operation	N/A	Potentially Significant	N/A	Potentially Significant	Noise-1b	Less than Significant
Delevan Pipeline Discharge Facility	N/A	N/A		N/A	None	N/A
Construction and Maintenance	N/A	N/A	No Impact	N/A	None	N/A
Operation	N/A	N/A	Potentially Significant	N/A	Noise-1b	Less than Significant
Project Buffer	N/A				None	N/A
Construction and Maintenance	N/A	No Impact	No Impact	No Impact	None	N/A
Operation	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A

Table ES-3: Summary of Environmental Effects by Resource

Table ES-3 Summary of Environmental Effects by Resource						
Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Impact Noise-4: Result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity						
Extended Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Secondary Study Area						
Trinity Lake, Lewiston Lake, Trinity River, Klamath River downstream of the Trinity River, Whiskeytown Lake, Spring Creek, Shasta Lake, Keswick Reservoir, Clear Creek, Lake Oroville, Thermalito Complex; Feather River; Sutter Bypass; Yolo Bypass; Folsom Lake; Lake Natoma; American River; Sacramento-San Joaquin Delta; Suisun Bay; San Pablo Bay; San Francisco Bay	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Pump Installation at the Red Bluff Pumping Plant	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area, Sites Reservoir Dams, Recreation Areas, Sites Pumping/Generating Plant, Sites Electrical Switchyard, Tunnel, Sites Reservoir Inlet/Outlet Structure, Field Office Maintenance Yard, Holthouse Reservoir Complex, Holthouse Reservoir Electrical Switchyard, Delevan Pipeline Electrical Switchyard	N/A	No Impact	No Impact	No Impact	None	N/A
Road Relocations and South Bridge	N/A				None	N/A
Construction	N/A	Significant Impact	Significant Impact	Significant Impact	Noise-1a	Less than Significant
Operation	N/A	No Impact	No Impact/ Less than Significant	No Impact/ Less than Significant	None	N/A
Maintenance		Less than Significant	Less than Significant	Less than Significant	None	N/A
GCID Canal Facilities Modifications	N/A				None	N/A
Construction	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Noise-1a	Less than Significant
Operation	N/A	No Impact	No Impact	No Impact	None	N/A
Maintenance	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
TRR, GCID Canal Connection to the TRR, TRR Pumping/Generating Plant, TRR Electrical Switchyard, TRR Pipeline, TRR Pipeline Road	N/A				None	N/A
Construction	N/A	Significant Impact	Significant Impact	Significant Impact	Noise-1a	Less than Significant
Operation	N/A	No Impact	No Impact	No Impact	None	N/A
Maintenance	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Delevan Pipeline, Delevan Transmission Line	N/A				None	N/A
Construction	N/A	Significant Impact	Significant Impact	Significant Impact	Noise-1a	Less than Significant
Operation	N/A	No Impact	No Impact	No Impact	None	N/A
Maintenance	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Delevan Pipeline Intake Facilities	N/A		N/A		None	N/A
Construction and Maintenance	N/A	Less than Significant	N/A	Less than Significant	None	N/A
Operation	N/A	No Impact	N/A	No Impact	None	N/A
Delevan Pipeline Discharge Facility	N/A	N/A		N/A	None	N/A
Construction and Maintenance	N/A	N/A	Less than Significant	N/A	None	N/A
Operation	N/A	N/A	No Impact/ Less than Significant	N/A	None	N/A

Table ES-3
Summary of Environmental Effects by Resource

Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Project Buffer	N/A				None	N/A
Construction	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Operation	N/A	No Impact	No Impact	No Impact	None	N/A
Maintenance	N/A	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Noise-1a	Less than Significant
Impact Noise-5: Expose people residing or working in the Project area to excessive noise levels (when the Project is located within an airport land use plan or within two miles of a public airport).						
Extended and Secondary Study Areas	N/A	N/A	N/A	N/A	None	N/A
Primary Study Area						
GCID Canal Facilities Modifications	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
28. Public Health and Environmental Hazards						
Hazardous Materials						
Impact Pub Health-1: Create a Significant Public or Environmental Hazard from the Routine Transport, Use, or Disposal of Hazardous Materials						
Extended Study Area	No Substantial Adverse Effect	No Impact/Less than Significant	No Impact/Less than Significant	No Impact/Less than Significant	None	N/A
Secondary Study Area	No Substantial Adverse Effect					
Sediment removal; Release of hazardous materials	N/A	Potentially Significant	Potentially Significant	Potentially Significant	SW Qual-1e: Prepare and Implement a Stormwater Pollution Prevention Plan	Less than Significant
Soil/Sediment contamination	N/A	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect	Potentially Significant	Potentially Significant	Potentially Significant	SW Qual-1e	Less than Significant
Impact Pub Health-2: Create a Significant Public or Environmental Hazard from the Release of Hazardous Materials into the Environment						
Extended Study Area	No Substantial Adverse Effect	No Impact/Less than Significant	No Impact/Less than Significant	No Impact/Less than Significant	None	N/A
Secondary Study Area	No Substantial Adverse Effect					
Sediment removal; Release of hazardous materials	N/A	Potentially Significant	Potentially Significant	Potentially Significant	SW Qual-1e	Less than Significant
Soil/Sediment contamination	N/A	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect	Potentially Significant	Potentially Significant	Potentially Significant	SW Qual-1e	
Impact Pub Health-3: Effects from Hazardous Emissions or Hazardous Materials, Substances, or Wastes within 0.25 Mile of an Existing or Proposed School						
Extended Study Area	No Substantial Adverse Effect	No Impact/Less than Significant	No Impact/Less than Significant	No Impact/Less than Significant	None	N/A
Secondary and Primary Study Areas	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Impact Pub Health-4: Create a Significant Hazard to the Public or the Environment from the Project being Located on a Listed Hazardous Materials Site						
Extended Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Secondary Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect	Potentially Significant	Potentially Significant	Potentially Significant	GW Qual-1b: Implement DWR and County Standards for the Proper Abandonment of Wells, Boreholes, and Septic Systems-	Less than Significant
					Pub Health-4: Dispose of Hazardous Waste Discovered during Project Construction Pursuant to CERCLA Requirements	Less than Significant

Table ES-3: Summary of Environmental Effects by Resource

Table ES-3 Summary of Environmental Effects by Resource						
Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Impact Pub Health-5: Effects on Adopted Emergency Response Plan or Emergency Evacuation Plan Implementation						
Extended Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Secondary Study Area	No Substantial Adverse Effect	No Impact/Less than Significant	No Impact/Less than Significant	No Impact/Less than Significant	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
Construction- Oversized Vehicles	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Trans-3: Prepare and Implement a Project Construction Traffic Control Plan	Less than Significant
Operation- Increased Traffic	N/A	Significant	Significant	Significant	Trans-1: Prepare and Implement a Project Operation Traffic Control Plan	Less than Significant
Operation – Increased Recreation Visitors	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Trans-1	Less than Significant
Project-Related Operation and Maintenance Traffic	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Impact Pub Health-6: Expose People or Structures to a Significant Risk of Loss, Injury, or Death from Wildland Fires						
Extended and Secondary Study Areas	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect	Potentially Significant	Potentially Significant	Potentially Significant	Pub Health-6: Develop and Implement a Project Fire Prevention and Suppression Plan and Consult with Fire Protection Agencies	Less than Significant
Impact Pub Health-7: Create a Safety Hazard for People Residing or Working in the Project Area (if Located within an Airport Land Use Plan or within Two Miles of a Public Airport or Public Use Airport if no Plan has been Adopted)						
Extended and Secondary Study Areas	N/A	N/A	N/A	N/A	None	N/A
Primary Study Area	N/A	No Impact	No Impact	No Impact	None	N/A
Mosquitoes and Other Vectors						
Impact Pub Health-9: Expose People to an Increased Risk of Mosquito-Borne or Other Vector-Borne Illnesses, or Increased Exposure to Nuisance Problems						
Extended Study Area	No Substantial Adverse Effect				None	N/A
Agricultural, Municipal, and Industrial Water Use	N/A	No Impact/ Less than Significant	No Impact/ Less than Significant	No Impact/ Less than Significant	None	N/A
Wildlife Refuge Water Use	N/A	No Impact	No Impact	No Impact	None	N/A
San Luis Reservoir	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Secondary Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
Ponding during Construction	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Pub Health-9a: Develop and Implement a Stormwater Pollution Prevention Plan	Less than Significant
Sites Reservoir Inundation Area, Recreation Areas, Holthouse Reservoir, TRR, Delevan Pipeline Intake Facilities (operation and maintenance)	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Pub Health-9b: Develop and Implement a Mosquito, Vector, and other Nuisance Problems Control Plan	Less than Significant
29. Public Services and Utilities						
Impact Services-1: A substantial adverse physical impact associated with the provision of new or physically altered governmental facilities or the need for new or physically altered governmental facilities (the construction of which could cause significant environmental impacts) in order to maintain acceptable service ratios, response times, or other performance objectives for the following public services: fire protection, police protection, schools, parks, and/or other public facilities, and disruptions to local or regional utility services						
Extended Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A

Table ES-3
Summary of Environmental Effects by Resource

Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Secondary Study Area						
Trinity Lake, Lewiston Lake, Trinity River, Klamath River downstream of the Trinity River, Whiskeytown Lake, Spring Creek, Shasta Lake, Keswick Reservoir, Sacramento River, Clear Creek, Lake Oroville, Thermalito Complex; Feather River; Sutter Bypass; Yolo Bypass; Folsom Lake; Lake Natoma; American River; Sacramento-San Joaquin Delta; Suisun Bay; San Pablo Bay; San Francisco Bay	No Substantial Adverse Effect	No Impact/ Less than Significant	No Impact/ Less than Significant	No Impact/ Less than Significant	None	N/A
Pump Installation at the Red Bluff Pumping Plant	N/A	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
Construction Impacts						
Emergency service providers	N/A	No Impact	No Impact	No Impact/ Less than Significant/ Potentially Significant/ Significant	None	N/A
School bus service	N/A	No Impact	No Impact	No Impact	None	N/A
Disruption of existing utility services – All Primary Study Area Project Facilities except Holthouse Reservoir	N/A	No Impact/ Less than Significant/ Significant	No Impact/ Less than Significant/ Significant	No Impact/ Less than Significant/ Significant	Services-1a: Avoid Damage to or Disruption of Existing Utility Services	Less than Significant
Disruption of existing utility services – Holthouse Reservoir	N/A	Significant	Significant	Significant	Services-1b: Perform Utility Relocation or Modification	Less than Significant
Operations Impacts	N/A	No Impact/ Less than Significant	No Impact/ Less than Significant	No Impact/ Less than Significant	None	N/A
Impact Services-2: A decline in property tax or fee revenues that would lead to a substantial decrease in public services						
Extended Study Area	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Secondary Study Area						
Trinity Lake, Lewiston Lake, Trinity River, Klamath River downstream of the Trinity River, Whiskeytown Lake, Spring Creek, Shasta Lake, Keswick Reservoir, Sacramento River, Clear Creek, Lake Oroville, Thermalito Complex; Feather River; Sutter Bypass; Yolo Bypass; Folsom Lake; Lake Natoma; American River; Sacramento-San Joaquin Delta; Suisun Bay; San Pablo Bay; San Francisco Bay	No Substantial Adverse Effect	Less than Significant/ No Impact	Less than Significant/ No Impact	Less than Significant/ No Impact	None	N/A
Pump Installation at the Red Bluff Pumping Plant	N/A	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Impact Services-3: Exceed the wastewater treatment requirements of the applicable Regional Water Quality Control Board						
Extended, Secondary and Primary Study Areas	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Impact Services-4: The need for expansion of existing wastewater treatment, water treatment, stormwater, and/or landfill facilities						
Extended Study Area	No Substantial Adverse Effect	No Impact/ Less than Significant	No Impact/ Less than Significant	No Impact/ Less than Significant	None	N/A
Secondary Study Area						-
Trinity Lake, Lewiston Lake, Trinity River, Klamath River downstream of the Trinity River, Whiskeytown Lake, Spring Creek, Shasta Lake, Keswick Reservoir, Sacramento River, Clear Creek, Lake Oroville, Thermalito Complex; Feather River; Sutter Bypass; Yolo Bypass; Folsom Lake; Lake Natoma; American River; Sacramento-San Joaquin Delta; Suisun Bay; San Pablo Bay; San Francisco Bay	No Substantial Adverse Effect	No Impact/ Potentially Beneficial Effect	No Impact/ Potentially Beneficial Effect	No Impact/ Potentially Beneficial Effect	None	N/A
Pump Installation at the Red Bluff Pumping Plant	N/A	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A

Table ES-3: Summary of Environmental Effects by Resource

Table ES-3 Summary of Environmental Effects by Resource						
Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Impact Services-5: Require new or expanded water supply entitlements and resources						
Extended Study Area	No Substantial Adverse Effect	No Impact/ Potentially Beneficial Effect	No Impact/ Potentially Beneficial Effect	No Impact/ Potentially Beneficial Effect	None	N/A
Secondary Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect	No Impact/Less than Significant	No Impact/Less than Significant	No Impact/Less than Significant	None	N/A
Impact Services-6: Non-compliance with federal, State, and local statutes and regulations related to solid waste						
Extended Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Secondary Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
30. Visual Resources						
Impact Vis-1: A substantial adverse effect on a scenic vista.						
Extended Study Area						
Agricultural Water Use; Municipal/Industrial Water Use ; Wildlife Refuge Water Use	No Substantial Adverse Effect/ Potentially Beneficial Effect	No Impact	No Impact	No Impact	None	N/A
San Luis Reservoir	No Substantial Adverse Effect/ Potentially Beneficial Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Other Reservoirs	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Secondary Study Area						
Trinity Lake; Lewiston Lake; Whiskeytown Lake; Shasta Lake; Keswick Reservoir; Sacramento River, Lake Oroville; Thermalito Complex; Trinity River; Klamath River downstream of the Trinity River; Spring Creek; Clear Creek; Feather River; American River; Sutter Bypass; Yolo Bypass; Sacramento-San Joaquin Delta; Suisun Bay; San Pablo Bay; San Francisco Bay	No Substantial Adverse Effect	No Impact/ Potentially Beneficial Effect	No Impact/ Potentially Beneficial Effect	No Impact/ Potentially Beneficial Effect	None	N/A
Pump Installation at the Red Bluff Pumping Plant	N/A	Less Than Significant	Less Than Significant	Less Than Significant	None	N/A
Folsom Lake; Lake Natoma	Potentially Substantial Adverse Effect	No Impact/ Potentially Beneficial Effect	No Impact/ Potentially Beneficial Effect	No Impact/ Potentially Beneficial Effect	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area	N/A				None	N/A
Construction	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Operation	N/A	Potentially Significant	Potentially Significant	Potentially Significant	No Feasible Mitigation	Significant and Unavoidable
Sites Reservoir Dams	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Recreation Areas	N/A				None	N/A
Construction	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Operation	N/A	Beneficial Effect	Beneficial Effect	Beneficial Effect	None	N/A
Road Relocations and South Bridge	N/A	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	No Feasible Mitigation	Significant and Unavoidable

Table ES-3
Summary of Environmental Effects by Resource

Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Sites Pumping/ Generating Plant; Sites Electrical Switchyard; Field Office Maintenance Yard; Tunnel; Sites Reservoir Inlet/Outlet Structure; Holthouse Reservoir Complex, Holthouse Reservoir Electrical Switchyard	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
TRR; TRR Pumping/Generating Plant, TRR Electrical Switchyard, TRR Pipeline, TRR Pipeline Road, Delevan Pipeline Electrical Swtichyard, GCID Canal Connection to the TRR	N/A	/			None	N/A
Construction	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Operation	N/A	Potentially Significant	Potentially Significant	Potentially Significant	No Feasible Mitigation	Significant and Unavoidable
Delevan Transmission Line	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Delevan Pipeline	N/A	No Impact	No Impact	No Impact	None	N/A
Delevan Pipeline Intake/Discharge Facilities; Project Buffer	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Impact Vis-2: Substantial damage to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.						
Extended Study Area						
Agricultural Water Use; Municipal/Industrial Water Use; Wildlife Refuge Water Use; Other Reservoirs	No Substantial Adverse Effect/ Potentially Beneficial Effect	No Impact	No Impact	No Impact	None	N/A
San Luis Reservoir	No Substantial Adverse Effect/ Potentially Beneficial Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Secondary Study Area						
Trinity Lake; Lewiston Lake; Whiskeytown Lake; Shasta Lake; Keswick Reservoir; Sacramento River, Lake Oroville; Thermalito Complex; Trinity River; Klamath River downstream of the Trinity River; Spring Creek; Clear Creek; Feather River; American River; Sutter Bypass; Yolo Bypass; Folsom Lake; Lake Natoma; Sacramento-San Joaquin Delta; Suisun Bay; San Pablo Bay; San Francisco Bay	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Pump Installation at the Red Bluff Pumping Plant	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Primary Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Impact Visual-3: Substantial degradation of the existing visual character or quality of the site and its surroundings.						
Extended Study Area						
Agricultural Water Use; Municipal/Industrial Water Use; Wildlife Refuge Water Use; Other Reservoirs	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
San Luis Reservoir	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Secondary Study Area						
Trinity Lake; Lewiston Lake; Whiskeytown Lake; Shasta Lake; Keswick Reservoir; Lake Oroville; Thermalito Complex; Trinity River; Klamath River downstream of the Trinity River; Spring Creek; Clear Creek; Feather River; American River; Sutter Bypass; Yolo Bypass; Sacramento River; Sacramento-San Joaquin Delta; Suisun Bay; San Pablo Bay; San Francisco Bay	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Pump Installation at the Red Bluff Pumping Plant	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Folsom Lake; Lake Natoma	Potentially Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Vis-3b: Reduce Operational Impacts Causing Adverse Permanent Impacts on Visual Quality of the Site	Significant and Unavoidable
Sites Reservoir Dams	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A

Table ES-3: Summary of Environmental Effects by Resource

Table ES-3 Summary of Environmental Effects by Resource						
Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Recreation Areas	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Road Relocations and South Bridge	N/A				None	N/A
Construction and Maintenance	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Vis-3a: Reduce Construction and Maintenance Impacts Causing Adverse Temporary Impacts on Visual Quality of the Site	Less than Significant
Operations	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Vis-3b	Significant and Unavoidable
Sites Electrical Switchyard; Field Office Maintenance Yard; Holthouse Reservoir Electrical Switchyard	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Vis-3b	Less than Significant
TRR; TRR Pumping/Generating Plant, TRR Electrical Switchyard, Delevan Pipeline Electrical Switchyard, GCID Canal Connection to the TRR	N/A				None Required	N/A
Construction and Maintenance	N/A	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Vis-3a	Less than Significant
Operations	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Vis-3b	Significant and Unavoidable
TRR Pipeline, TRR Pipeline Road, Delevan Transmission Line; Project Buffer	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Delevan Pipeline	N/A				None	N/A
Construction	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Vis-3a	Less than Significant
Operation	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Delevan Pipeline Intake/Discharge Facilities; Project Buffer	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Impact Vis-4: A new source of substantial light or glare which would adversely affect day or nighttime views in the area.						
Extended Study Area						
Agricultural Water Use; Municipal/Industrial Water Use; Wildlife Refuge Water Use; Other Reservoirs	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
San Luis Reservoir	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Secondary Study Area						
Trinity Lake; Lewiston Lake; Whiskeytown Lake; Shasta Lake; Keswick Reservoir; Lake Oroville; Thermalito Complex; Trinity River; Klamath River downstream of the Trinity River; Sacramento River, Spring Creek; Clear Creek; Feather River; Folsom Lake; Lake Natoma; American River; Sutter Bypass; Yolo Bypass; Sacramento River; Sacramento-San Joaquin Delta; Suisun Bay; San Pablo Bay; San Francisco Bay	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Pump Installation at the Red Bluff Pumping Plant	N/A	No Impact	No Impact	No Impact	None	N/A
Primary Study Area	No Substantial Adverse Effect				None	N/A
Sites Reservoir Inundation Area	N/A				None	N/A
Construction	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
Operation	N/A	Potentially Significant	Potentially Significant	Potentially Significant	No Feasible Mitigation	Significant and Unavoidable
Recreation Areas; Delevan Transmission Line	N/A				None	N/A
Construction	N/A	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Less than Significant/ Potentially Significant	Vis-4a: Reduce Construction and Maintenance Impacts Causing Substantial Light or Glare	Less than Significant
Operations	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Vis-4b: Reduce Operational Impacts Causing Substantial Light or Glare	Less than Significant

Table ES-3
Summary of Environmental Effects by Resource

Impact	Level of Significance by Alternative				Recommended Mitigation	
	No Project/ No Action Alternative	A	B	C	Mitigation Measure	Level of Significance With Mitigation
Road Relocations and South Bridge	N/A				None	N/A
Construction	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Vis-4a	Less than Significant
Operations	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Vis-4b	Less than Significant
Sites Reservoir Dams, Sites Pumping/ Generating Plant; Sites Electrical Switchyard; Field Office Maintenance Yard; Tunnel; Sites Reservoir Inlet/Outlet Structure; Holthouse Reservoir Complex; Holthouse Reservoir Electrical Switchyard, Delevan Pipeline, Delevan Pipeline Intake/Discharge Facilities	N/A	Less than Significant	Less than Significant	Less than Significant	None	N/A
TRR; TRR Pumping/Generating Plant, TRR Electrical Switchyard, TRR Pipeline, TRR Pipeline Road, Delevan Pipeline Electrical Switchyard, GCID Canal Connection to the TRR	N/A					
Construction	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Vis-4a	Less than Significant
Operations	N/A	Potentially Significant	Potentially Significant	Potentially Significant	Vis-4b	Less than Significant
Project Buffer	N/A	No Impact/ Less than Significant	No Impact/ Less than Significant	No Impact/ Less than Significant	None	N/A
31. Power Production and Energy						
Impact Power-1: Inefficient, Wasteful, or Unnecessary Consumption of Energy during Construction, Maintenance, and Recreation Activities						
Extended Study Area	No Substantial Adverse Effect	No Impact	No Impact	No Impact	None	N/A
Secondary Study Area	No Substantial Adverse Effect	No Impact/Less than Significant	No Impact/Less than Significant	No Impact/Less than Significant	None	N/A
Primary Study Area	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Impact Power-2: Inefficient, Wasteful, or Unnecessary Consumption of Energy during Operational Activities						
Extended Study Area	No Substantial Adverse Effect	No Impact	Less than Significant	Less than Significant	None	N/A
Secondary and Primary Study Areas	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A
Impact Power-3: A Substantial Reduction in the Generation of Renewable Energy						
Extended, Secondary and Primary Study Areas	No Substantial Adverse Effect	Less than Significant	Less than Significant	Less than Significant	None	N/A